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Drishti, 641, First Floor, Dr. Mukherjee Nagar, Delhi-110009
Phone: 87501 87501, WhatsApp: 81303 92355
Email: engweb@groupdrishti.com

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Witness Protection Scheme, 2018

The Supreme Court (SC) has approved **India's First Witness Protection Scheme** drafted by the union government and has asked the Centre, States and Union Territories to enforce it in letter and spirit.

➢ The aim and objectives of the scheme are to **ensure that the investigation, prosecution, and trial of criminal offenses is not prejudiced because witnesses feel intimidated to give evidence without protection from violent or other criminal recrimination**.

Background

➢ First ever reference to Witness Protection in India came in **14th Law Commission Report in 1958**.

➢ After that **154th, 178th and 198th Law Commission Report and Malimath Committee report** on reforms in the criminal justice system also recommended putting in place a witness protection scheme.

➢ In a society governed by a Rule of Law, it is imperative to ensure that investigation, prosecution and trial of criminal offences is not prejudiced because of threats or intimidation to witnesses.

➢ The need to protect witnesses has been emphasised by the Supreme Court of India in "Zahira Habibulla H. sheikh and Another v. State of Gujarat" 2004.

SC Judgement

➢ SC held that the **Right of witnesses to testify freely in courts is part of Article 21 (Right to Life)**.

➢ The court said that the **scheme will be the law under Article 141/142 of the Constitution,** until the enactment of suitable Parliamentary and/or State Legislations on the subject.

Reasons For Witness Turning Hostile

➢ The court has noted the following **reasons for witness turning hostile** during the trial:
  ○ Threat/Intimidation.
  ○ Inducement by various means.
  ○ Use of muscle and money power by the accused.
  ○ Use of stock witnesses (a few alleged witnesses, who depose falsely in favor of the prosecution as and when called).
  ○ Protracted trials.
  ○ Hassles faced by the witnesses during investigation and trial.
  ○ The non-existence of any clear-cut legislation to check hostility of witness.

Witness Protection Scheme, 2018

➢ The programme identifies **three categories of witnesses** as per threat perception:
  ○ **Category A:** Those cases where **threat extends to the life** of witness or family members during the investigation, trial or even thereafter.
  ○ **Category B:** Those cases where the **threat extends to safety, reputation or property** of the witness or family members during the investigation or trial.

PROTECTION MEASURES

➤ Ensuring that witness and accused do not come face-to-face during investigation or trial

➤ Monitoring of mail and telephone calls

➤ Change witness's telephone number or assign him an unlisted number

Installation of security devices in witness's home such as security doors, CCTV, alarms, fencing etc

➤ Concealment of identity of witness by referring to him with the changed name/alphabet

➤ Close protection, regular patrolling around witness's house

➤ Escort to and from court

➤ Holding in-camera trials

Note:

○ **Category C:** Cases where the **threat is moderate and extends to harassment or intimidation** of the witness or his family members, reputation or property during the investigation, trial or thereafter.

➢ **Witness Protection Fund**

○ It will be funded by respective states' annual budgetary allocation, donations from national and international philanthropic organizations and amounts contributed as part of Corporate Social Responsibility.

➢ **Threat Analysis Report (TAR)**

○ **'Threat Analysis Report' of the witness will be prepared by the Commissioner/SSP,** when witness applies for protection.

○ It will categorize on the level of threat perception and will submit suggestions.

○ The Witness Protection Order passed by the Competent Authority will be **implemented by the Witness Protection Cell of the State/UT**.

➢ **Change of Identity**

○ Based on threat perception, new identities will be conferred to the witness on request by the Competent Authority which **includes new name/profession/ parentage** and providing supporting **documents acceptable by the Government Agencies**.

Way Forward

➢ In words of Jeremy Bentham, **"Witnesses are eyes and ears of justice"**. This scheme attempts at ensuring that witnesses receive appropriate and adequate protection. This will go a long way in strengthening the Criminal Justice System in the country and will consequently enhance National Security Scenario.

Supreme Court on Capital Punishment

Recently the Supreme Court of India gave two important judgements on Death Row Convicts and the Rarest of Rare Doctrine.

Rights of Death Row Convicts

The Supreme Court stated that death-row convicts should be entitled to meet family members, lawyers and mental health professionals so that their rights are adequately protected at all stages.

It held that that prisoners sentenced to death by any court have a right to be treated at par with other convicted prisoners and should be provided all similar facilities as are provided to others in jail.

The rights of prisoners should be available in all the states and union territory administrations and they must modify the prison manuals, regulations and rules accordingly.

SC on Rarest of Rare Doctrine

In this judgement the SC stated that the courts had been imposing the death penalty "arbitrarily and freakishly" all these years.

The test of "rarest of rare" had been "inconsistently applied" by courts. According to the **262nd Law Commission report the "rarest of rare" doctrine had failed to prevent judges from arbitrarily awarding death sentence**.

Even a condemned man's good conduct in prison should be taken into consideration in the appellate stage to consider the commutation of his or her death penalty.

Moreover, public opinion against an under trial must not affect the trial and ultimately the sentence of punishment.

Debate on Death Penalty

➢ **Why it is time to abolish the death penalty?**

○ No study has shown that the death penalty deters crime more than life imprisonment.

○ Poor prisoners on legal aid won't get good lawyers to defend them. Hence, death penalty unfairly targets the poor and marginalised.

○ **The death penalty is impossible to administer fairly or rationally.** For example, between January 1, 2000 and June 31, 2015, the Supreme Court imposed 60 death sentences. It subsequently admitted that it had erred in 15 of them (25%).

➢ **Why is it NOT the time to abolish the death penalty?**

○ Its constitutionality has not only been upheld in India but also in liberal democracies like that of the U.S. Therefore, the retention of the death penalty is not a reflection of "uncivilised" polity.

○ The 35th Report (Law Commission), and the more recent 262nd Report could not recommend the punishment's absolute abolition despite a rather desperate attempt to do the same.

Note:

○ **The exception to abolition in cases of terror will also not work.** India's neighbourhood is not peaceful, and, it does not form group of nations that facilitate common growth, unlike the European Union.

○ **A punishment cannot be judged by its impact on criminals but by its impact on those who are still innocent.**

○ The state acknowledges that the **sacredness of life** can only be seen to be protected if those who take it away are **proportionately punished**.

Legal Provisions

➢ The **Indian Penal Code, 1860** provides for the provision of a death sentence for various offenses like criminal conspiracy, murder, waging war against the nation, dacoity and murder, etc. Various other legislations like **Unlawful Activities Prevention Act, 1967** also provides for the death penalty.

➢ Under **Article 72,** the Constitution has created a provision for clemency of capital punishment. Under this Article, the President of India has the power to grant pardon, or commute or remit the death sentence in certain cases. Similarly, **Article 161** provides for powers of the Governor of the State to grant clemency.

➢ Also, when a Sessions Court awards the capital punishment, it must be confirmed by the High Court of the particular state, and only then the execution can be carried out.

➢ Recently, India has allowed capital punishment for anyone convicted of rape of children under the age of 12.

➢ In 2007, the UN General Assembly passed a resolution calling for a moratorium on the administration of the death penalty by the 59 countries that still retained it. India is one of them, even if it does not employ it as frequently as countries such as Iran, China, Pakistan, Saudi Arabia, and the U.S.

Way Forward

➢ The capital punishment is not arbitrary because it comes out of a judicial process. The judiciary is conscious of its irreversibility and have therefore restricted it to only rarest of rare cases that shock the conscience of society.

➢ **In 2015, the Law Commission called for abolition of the death penalty for ordinary crimes,** and activists continue to argue for abolishing it altogether. However, the constitutionality of the death penalty will continue to be challenged and, sooner or later, the Supreme Court will have to answer whether absence of political will is sufficient ground to override the right to life.

Lack of Basic Rights for the Aged a Concern: SC

In response to a public interest litigation, the Supreme Court has ordered the central government to take steps to provide care and rights to the elderly.

➢ The Supreme Court has ordered that state and central governments must strictly implement the provisions of **Maintenance and Welfare of Parents and Senior Citizens act 2007 (MWP Act)**.

➢ SC has said that every one has **right to dignity, health, and shelter under Article 21**.

➢ United Nations Population Division has estimated that approximately 19% of Indians will be elderly (aged 60 years and above) by 2050, marking a dramatic jump from the present 8% level.

➢ **Challenges** faced by the elderly in India include **abandonment by their families, destitution, and homelessness, inability to access quality health care, low levels of institutional support, and the loneliness and depression associated with separation from their families**.

The Verdict

➢ The central government must obtain the necessary information about the number of old age homes, medical facilities available in each district.

➢ Making senior citizens aware of their constitutional and statutory right.

➢ MWP Act should be publicized and implemented effectively.

➢ The Government should relook at schemes related to senior-citizen and overhaul them to bring convergence and avoid multiplicity.

➢ The grant pension to the elderly should be more realistic.

➢ There is a need to continuously monitor progress in the implementation of rights of the elderly.

Note:

Major Steps taken by the Government

➢ **Maintenance and Welfare of Parents and Senior Citizens Act of 2007**

    ○ **It made a legal obligation for children and heirs to provide maintenance (maximum of Rs 10,000 per month) to senior citizens.** It also permits state governments to establish old age homes in every district.

    ○ Senior citizens who are unable to maintain themselves shall have the **right to apply to a maintenance tribunal set up in every sub-division,** seeking a monthly allowance from their children or heirs. Appellate tribunals may be established at the district level.

    ○ Punishment for not paying the required monthly allowance shall be Rs 5,000 or up to three months imprisonment or both.

➢ **Indira Gandhi National Old Age Pension Scheme (IGNOAPS)**

    ○ The **scheme IGNOAPS was launched in the year 1995 by the Ministry of Rural Development**. The scheme is a major part of National Social Assistance Programme.

    ○ Under this scheme senior citizens i.e. people who are 60 years or above **receive Rs. 200** as a pension on monthly basis. People who have crossed 80 years receive Rs.500 instead of Rs. 200 on monthly basis.

    ○ In this scheme, **the pension type is the non-contribution pension**. It means the employee does not have to contribute anything to get the pension from the government.

➢ **Pradhan Mantri Vaya Vandana Yojana (PMVVY)**

    ○ It aims to provide social security during old age and to protect elderly persons aged 60 and above against a future fall in their interest income due to uncertain market conditions.

Note:

➢ The state should secure a social order for the promotion of the welfare of the people under **Article 38 of the Constitution of India**.

➢ **Madrid International Plan of Action on Ageing (MIPAA):** The plan is a resource for policy-makers, suggesting ways for governments, non-governmental organizations and other stakeholders to reorient the ways in which their societies perceive, interact with and care for their older citizens, as two billion people will be aged 60 and above by 2050.

Draft Space Activities Bill, 2017

The Government has invited suggestions from the public or stakeholders regarding the draft Space Activities Bill, 2017.

Objective

➢ To promote and regulate the space activities of India by encouraging the participation of non-governmental/ private sector agencies under the guidance and authorisation of the government through the Department of Space.

Legal Provisions

➢ Internationally, the outer space activities are governed by treaties and principles evolved under **UN Committee on Peaceful Uses of Outer Space (UNCOPUOS)**.

    ○ The Committee on the Peaceful Uses of Outer Space (COPUOS) was set up by the UN General Assembly in 1959 to govern the exploration and use of space for the benefit of all humanity: for peace, security and development.

➢ India is also a party to the **Outer Space Treaty, 1967**.

➢ Constitution of India provides for implementation of international treaty obligations, vide **Articles 51 and 253**.

➢ "Space" as a subject is not mentioned in the Union List. However, Parliament retains residuary legislative power in respect of "any matter not enumerated" in any of the three lists.

➢ Currently, space activities are regulated by policies like **Satellite Communication Policy, 2000 and Remote Sensing Data Policy, 2011**.

Background

➢ The lack of independent private participation in space is because of absence of a framework to provide transparency, timelines on licensing, issuance of authorisation and continuous supervision mechanism (in accordance with the Outer Space Treaty), among others.

➢ These issues need to be addressed to provide a stronger thrust for 'Make in India' as well as FDI in space.

Salient Features

➤ It **will apply to every citizen of India** and to all sectors engaged in any space activity in India or outside India.

➤ A **non-transferable licence** shall be provided by the Central Government to any person carrying out commercial space activity.

➤ The Central Government **will maintain a register of all space objects** (any object launched or intended to be launched around the earth) and formulate the appropriate mechanism for licencing, eligibility criteria, and fees for licence.

➤ It **will provide professional and technical support** for commercial space activity and regulate the procedures for conduct and operation of space activity.

➤ It **will ensure safety requirements and supervise** the conduct of every space activity of India and investigate any incident or accident in connection with the operation of a space activity.

➤ It **will share details about the pricing of products** created by space activity and technology with any person or any agency in a prescribed manner.

➤ If any person undertakes any commercial space activity without authorisation they shall be **punished with imprisonment up to 3 years or fined more than ₹ 1 crore or both**.

➤ It also has **provisions for the protection of Intellectual Property Rights (IPR)** created through space activity.

Way Forward

➤ The Bill is a welcome step in promoting the space sector but it needs to consider breaking down space and ground activities to frame clearer laws for the conduct of business, international obligations, national security concerns and protection of intellectual property.

➤ In order to enable competitive ecosystem in the space sector there is a need to consult all stakeholders and consider international best practices in managing the space value chain and inducting them within the Act.

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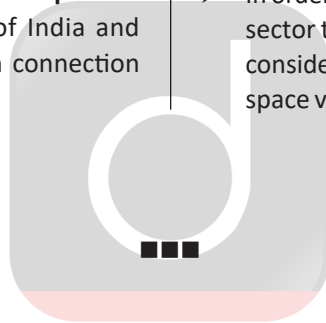
Economic Scenario

Highlights

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Back Series GDP Data

Recently the government has released the Gross Domestic Product (GDP) growth estimates for previous years based on the new method of calculation and base year (2011-12) it had adopted in 2015.

➤ The government adopted the recommendations of the **United Nations System of National Accounts,** which included measuring the **Gross Value Added (GVA),** and the use of new data sources wherever available. One of these data sources is the **Ministry of Corporate Affairs MCA-21** database, which became available since 2011-12.

   ❍ MCA-21, an e-governance initiative of the Ministry of Corporate Affairs was launched in 2006, to allow firms to electronically file their financial results.

➤ The new method is statistically more robust as it tries to relate the estimates to more indicators such as consumption, employment, and the performance of enterprises, and also incorporates factors that are more responsive to current changes, unlike the old series that usually took 2-3 years to register an underlying change.

Background

➤ In the new series, the **Central Statistics Office (CSO) did away with GDP at factor** cost and adopted the international practice of **GDP at market price and the GVA** measure to better estimate economic activity.

GDP at market price = GDP at factor cost + Indirect Taxes – Subsidies

➤ Further, the **base year used for calculations was changed to 2011-12 from the previous 2004-05**.

➤ Base year revision is normally done once in five years to accommodate and factor in the changes that take place in the economic scenario of the country.

➤ However, this had led to the problem of not being able to compare recent data with the years preceding 2011-12. So, the back series data released recently provided the earlier years' data using the new calculations.

New Findings

➤ Trends shown by the official back-data suggest that the old series **under-estimated the impact of the global financial crisis on the Indian economy**. It also over-estimated the rebound from the crisis.

➤ The **new data** release shows that **GDP growth during 2004 - 2014 averaged 6.7%,** compared with the **8.1% (2004-2009) and 7.46% (2009-2014),** respectively, estimated using the **older method**.

➤ In comparison, the **current government** has witnessed an **average GDP growth rate of 7.35%** during the first four years of its term, based on the new method.

➤ The **new data shows** that, contrary to the earlier perception, the **Indian economy never graduated to a 'high growth' phase of more than 9%** in the last decade or so.

➤ The newer data, especially for the mining and manufacturing sectors, shows that India did not recover from the global financial crisis 2007-2008 as quickly as initially thought.

Concerns Associated

➤ The choice of datasets and proxies, especially those datasets that didn't exist before 2011-12 have not been explained. For instance, for years preceding 2006, when the MCA-21 database did not exist, the

Note:

CSO has used Annual Survey of Industries (ASI) data for estimating manufacturing growth without giving the details about why it was selected over other available datasets.

➢ The new back series data diverges significantly from the estimates made in a **draft report** released by the **National Statistical Commission** (the autonomous body that helps in collection of data by India's statistical agencies) earlier in 2018.
  ❍ The report showed that growth during 2004-2014 crossed 9% on four occasions, and even hit 10.78% in 2010-11. The report pegged the average GDP growth during 2004-2009 at about 8.4% and 2009-2014 at 7.7%.

➢ However, the government clarified that this was just a draft report that used only one of the many methods in order to estimate the back series, and it was not the final number.

➢ The **role of the NITI Aayog** in the release of the statistical exercise of CSO, which comes under the Ministry of Statistics and Programme Implementation (MoSPI), has also been questioned.

Gross Value Added (GVA)

➢ Gross Value Added (GVA) is a measure of total output and income in the economy. It provides the value for the amount of goods and services produced in an economy after deducting the cost of inputs and raw materials that have gone into the production of those goods and services.

➢ It also gives sector-specific picture like what is the growth in an area, industry or sector of an economy.

➢ At the macro level, GVA is the sum of a country's GDP and net of subsidies and taxes in the economy.

Gross value added = GDP + subsidies on products – taxes on products

Gross Domestic Product (GDP)

➢ GDP gives the economic output from the consumers' side. It is the sum of private consumption, gross investment in the economy, government investment, government spending and net foreign trade (difference between exports and imports).

GDP = private consumption + gross investment + government investment + government spending + (exports – imports)

Comparison Between GVA and GDP

➢ While **GVA** gives a picture of the state of economic activity from the **producers' side or supply side, the GDP** gives the picture from the **consumers' side or demand** perspective. Both measures need not match because of the difference in treatment of net taxes. This is one of the reasons that in the first quarter of 2015, GDP growth was stronger at 7.5%, while GVA growth was 6.1%.

➢ GVA is considered as a better gauge of the economy because a sharp increase in the output (only due to higher tax collections which could be on account of better compliance or coverage) may distort the real output situation.

➢ A sector-wise breakdown provided by the GVA measure helps policymakers decide which sectors need incentives or stimulus and accordingly formulate sector-specific policies. But GDP is a key measure when it comes to making cross-country analysis and comparing the incomes of different economies.

Agriculture Export Policy 2018

The Union Cabinet has approved the Agriculture Export Policy, 2018.

➢ The vision of Agriculture Export Policy is to harness the export potential of Indian agriculture, through suitable policy instruments, to make India global power in agriculture and raise farmers income.

➢ **Objectives of the Policy**
  ❍ To **double agricultural exports from present ~US$ 30+ Billion to ~US$ 60+ Billion by 2022** and reach US$ 100 Billion in the next few years thereafter, with a stable trade policy regime.
  ❍ To **diversify the export basket,** destinations and boost high value and value-added agricultural exports including a focus on perishables.
  ❍ To **promote novel, indigenous, organic, ethnic, traditional and non-traditional Agri products exports**.
  ❍ To provide an institutional mechanism for pursuing market access, tackling barriers and deal with sanitary and phytosanitary issues.
  ❍ Enable farmers to get the benefit of export opportunities in the overseas market.

Note:

Need For Export Policy

➢ The policy can **address challenges to exporting agricultural products** from India like low farm productivity, poor infrastructure, global price volatility to market access.

➢ **India's share in global exports of agriculture products was merely 2.2 % in 2016.**

➢ India has remained at the lower end of the global agriculture export value chain given that the **majority of its exports are low value, semi-processed and marketed in bulk**.

➢ The share of **India's high value and value-added agriculture produce in its agri-export basket is less than 15% compared to 25% in the US and 49% in China**.

➢ India is **unable to export its vast horticultural produce due to lack of uniformity in quality, standardization and its inability to curtail losses across the value chain**.

➢ The **vision of doubling farmers income by 2022** will require a series of interventions to improve production and productivity along with economizing the cost of production. **This would also require India to augment its exports to the global market. Hence, it is necessary to have an agriculture export policy in place.**

Key Recommendations of Agricultural Export Policy, 2018	
Strategic	➢ Policy Measures ➢ Infrastructure and Logistics Boost ➢ Whole Government Approach to boost exports ➢ Greater involvement of State Governments in Agri Exports
Operational	➢ Focus on Clusters ➢ Promoting Value-added exports ➢ Marketing and promotion of "Produce of India" ➢ Infrastructure and Logistics to support agricultural exports ➢ Establishment of Strong Quality Regimen ➢ Self-sufficiency and export-centric production ➢ Research & Development ➢ Miscellaneous

➢ **Stable Trade Policy Measures** to ensure that the processed agricultural products and all kinds of organic products **will not be brought under the ambit of any kind of export restriction**.

○ The model agricultural produce market committee (APMC) act must be adopted by all states and e-Nam must be established.

➢ **Liberalizing Land Leasing Norms** and adoption of the Model Contract Farming Act by state governments in order to promote agricultural exports.

○ Contract farming is expected to bring in large-scale private investments in agriculture thus leading to large-scale mechanization. This will further produce surplus volumes of the standardized, exportable quality of agricultural products.

➢ **Infrastructure and Logistics Boost** by identifying ports for the export of agricultural products. Development in port infrastructure like dedicated perishable berths.

➢ **Holistic Government approach** which will ensure all government department and ministries like Ministry of Agriculture, Ministry of Food Processing Industries, Ministry of Shipping & Transport, Ministry of Railways and Ministry of Consumer Affairs involved in agricultural production, processing, transportation and export work together to address bottlenecks at every level.

➢ **State government involvement:** As Agriculture is a state subject, it is necessary to bring on board the state governments for positive agricultural reforms. Each state has its own agricultural nuances, like one state may be experiencing a drought while another may be dealing with floods. Thus, the states must include agriculture export in state export policy and build infrastructure and logistics to facilitate agricultural export.

➢ **Focus on Export centric Clusters** for pre- and post-harvest management of the production as well as in upgrading the supply chain to attain much higher levels of export from those clusters.

➢ **Promoting Value Added Exports** of indigenous and tribal products.

○ Through the National Programme on Organic Production (NPOP), organic food parks and by the uniform quality and packaging standards India can tap the potential for increasing organic exports.

○ Promotion of Research & Development (R&D) activities, promoting "produce in India" through

Note:

the constitution of separate funds dedicated to organic, value-added, ethnic, GI and branded products.

➢ **Post-Harvest Infrastructure** that can support the smooth logistical movement of agri-produce exports. This will have a direct co-relationship in increasing export volumes, assuring quality & ensuring better price realization per unit.

　○ Digitization of land records, geo-mapping of lands, registration of farmers and farm producer organizations (FPOs) is critical to smooth agricultural exports.

➢ **Establishment of Strong Quality Regimen** with new varieties, state of the art lab and a lab networking process for effective accreditation and monitoring.

　○ An institutional mechanism should be provided that would pursue market access, tackle barriers and deal with sanitary and phytosanitary issues against India's agricultural exports that come up from time to time.

➢ **Research and Development** led by private industry along with higher infrastructure expenditure by the government will be the key to boosting agricultural exports.

　○ Along with this, innovations in packaging, improving the shelf life of products and greater R&D in developing products to suit the palates of importing countries should be a priority.

➢ The policy has recommended setting up of an agri-startup fund.

Global Status Report on Road Safety: WHO

World Health Organization (WHO) has released the Global Status Report on Road Safety 2018.

Key Points

➢ Road traffic deaths are rising, with 1.35 million deaths in 2016 globally.

➢ Road Accidents are the eighth leading cause of death for all age groups surpassing HIV/AIDS, tuberculosis and diarrhoeal diseases.

➢ The road traffic deaths rates are highest in Africa (26.6 per 100 000 population) and lowest in Europe (9.3 per 100 000 population).

➢ However, the rates of death relative to the size of the world's population has stabilized in recent years.

➢ Progress is attributed to better legislation around key risks such as **speeding, drinking and driving, and failing to use seat-belts, motorcycle helmets and child restraints, safer infrastructure like sidewalks, dedicated lanes for cyclists, motorcyclists, and improved vehicle standards**.

➢ The progress has not occurred at a pace fast enough to compensate for the rising population and rapid motorization of transport taking place in many parts of the world.

Road Accidents in India

➢ Cities in India have reduced traffic crashes, and through media campaigns and stronger enforcement, more cities have cut drunken driving.

➢ Despite this, India reported more than 150,000 road accident deaths in 2016.

➢ There is a need to take a multi-sectoral approach to tackle road crashes and deaths. **Better infrastructure that can allow safer travel, better vehicles, improved technological interventions and enforcement of laws along with a health system that can take care of accident victims are the need of the hour.**

Recommendations to Reduce Road Traffic Deaths and Injuries

➢ **Safe Roads:** Safety consideration during the planning, design, and operation of roads.

➢ **Safe Vehicles:** Vehicle safety features such as electronic stability control and advanced braking.

➢ **Behavioral Changes:** Increasing awareness regarding the use of helmet, seat-belt and increasing child restraint use.

➢ **Post Crash Care:** Simple and affordable post-crash care interventions can save lives. Timely care at the scene, prompt transport to appropriate emergency and surgical care at the hospital, and access to rehabilitation services.

➢ **Role of bystanders:** They can contribute by activating the emergency care system and taking simple, potentially life-saving actions until professional help is available.

Note:

Brasilia Declaration on Road Safety

➤ The declaration was signed at the Second Global High-Level conference on Road Safety held in Brazil in November, 2015.

➤ Through the Brasilia Declaration Countries plan to achieve the **Sustainable Development Goal 3.6: By 2020, halve the number of global deaths and injuries from road traffic accidents**.

➤ United Nations has also declared **2010-2020 as the decade of action for Road Safety**.

➤ The main points of the Brasilia Declaration are:

○ Countries should form transport policies in order to favor more sustainable modes of transport such as walking, cycling and using public transport.

○ It highlights strategies to ensure the safety of all road users,

● by improving laws and enforcement;

● making roads safer through infrastructural modifications;

● ensuring that vehicles are equipped with life-saving technologies;

● enhancing emergency trauma care systems.

The International Road Assessment Programme (iRAP)

➤ The International Road Assessment Programme (iRAP) is a registered charity dedicated to saving lives through safer roads.

Justice K.S. Radhakrishnan Committee

➤ Supreme Court had set up the three-member KS Radhakrishnan panel on road safety in April 2014.

➤ The main recommendation of the committee was

○ Ban on the sale of alcohol on highways (both state and national) to restrain drunk driving.

○ The states were directed to implement laws on wearing helmets.

○ Audit of road safety to be implemented by states to ensure the safety standards in the design, construction, and maintenance of roads.

○ The committee stressed the importance of creating awareness among people on road safety rules.

Motor Vehicles (Amendment) Bill, 2016

➤ It proposes to create a National Register for Driving Licence and a National Register for Vehicle registration through **"Vahan"** and **"Sarathi" web portals**. This is in order to smoothen the process of registration and licensing.

➤ It proposes alterations in vehicles, in order to make them suitable for specially-abled people.

➤ It provides for a **Motor Vehicle Accident Fund,** which would provide compulsory insurance cover to all road users in India for certain types of accidents.

➤ It provides for a **National Road Safety Board,** to be created by the Central Government through a notification. The Board will advice the Central and State Governments on all aspects of road safety and traffic management.

➤ Contractors, consultants, and civic agencies will be accountable for faulty design, construction or poor maintenance of roads leading to accidents. Those found guilty would be penalized up to Rs 1 lakh.

➤ The Bill also provides for the protection of good samaritans.

National Medical Devices Promotion Council to be set up

The government has decided to set up the **National Medical Devices Promotion Council (NMDPC)** to boost manufacturing, attract investments and promote exports in the medical device sector which is a sunrise sector.

Sunrise Sector: An industry that produces new types of products or services, especially one that is expected to grow quickly. For example the food processing industry, space tourism, biotechnology etc.

Significance

➤ The **Medical Devices Industry (MDI)** plays a critical role in the healthcare ecosystem in the country.

➤ Having self-reliance in medical devices is important to **achieve the goal of health for all citizens of the country**. It will also help in reducing an import bill of over Rs 31, 000 crore in the medical devices sector.

➤ As Indian manufacturing companies and startups move towards creating innovative products, the setting-up

of the Council **will boost domestic manufacturing** in this sector.

➢ NMDPC can help in making India top 5 Medical Devices manufacturing hubs worldwide.

NMDPC

➢ The Council will be headed by Secretary, Department of Industrial Policy and Promotion (DIPP) under the Ministry of Commerce and Industry.

➢ Council will have representatives from concerned departments of Government, health care industry and quality control institutions.

➢ Andhra Pradesh MedTech Zone, Visakhapatnam, will provide technical support to the Council.

➢ The National Medical Devices Promotion Council will have the following **objectives and activities**:

 ○ Act as a facilitating and promotion & developmental body for the Indian MDI.

 ○ Hold periodic seminars, workshops, and all related networking activities to garner views of the industry.

 ○ Identify redundant processes and render technical assistance to the agencies and government departments to simplify the approval processes.

 ○ Enable entry of emerging interventions and support certifications for manufacturers to reach levels of global trade norms and lead India to an export-driven market in the sector.

 ○ Support dissemination and documentation of international norms and standards for medical devices, by capturing the best practices in the global market.

 ○ Drive a robust and dynamic Preferential Market Access (PMA) policy.

 ○ Undertake validation of Limited Liability Partnerships (LLPs) and other such entities within the MDI sector.

The Medical Devices Industry in India

➢ The Medical Devices industry in India has steadily grown and is valued at more than $5 billion.

➢ As per industry estimates, the Indian medical devices market will grow to USD 50 billion by 2025.

➢ Currently, India is counted among the top 20 global medical devices market and is the 4th largest medical devices market in Asia after Japan, China, and South Korea.

➢ Up to 100% Foreign Direct Investment is permitted in Medical devices through the automatic route.

Challenges to Medical Device industry in India

➢ **Low Penetration –** The per capita medical device spending of USD 3, compared to USD 7 in China and USD 42 in Russia is significantly low.

➢ **Lack of Accessibility –** The Indian healthcare system is inadequate, inefficient, and unevenly distributed. 69% of the Indian population lives in rural areas, while 73% of qualified consulting doctors reside in urban areas. 8% of qualified doctors are in rural areas, and the remaining 19% are in semi-rural areas.

➢ **Inadequate regulatory systems –** Non-alignment with global standards and the lack of quality product testing infrastructure are issues that hinder sectoral progress.

➢ **Real estate prices** and high capital costs limit the growth of delivery infrastructure.

➢ Insufficient attention by policymakers and a **complex tax regime** are also responsible for the sector's underdevelopment.

➢ The **lack of a comprehensive policy** and focus to develop the healthcare ecosystem.

➢ The limited attractiveness of India as a destination for medical devices due to **uncertain regulations and pricing environment,** unavailability of skilled resources, and ease of doing business compared to other comparable destinations in Asia.

➢ **Lack of innovation** and customization resulting in fewer options available to the patients.

Port Community System 'PCS1x'

Indian Ports Association (IPA), under the guidance of **Ministry of Shipping** has launched the Port Community System (PCS1x), **a cloud based new generation technology,** with user-friendly interface.

➢ This system will **enable maritime trade** to have an **improved communication with the customs**.

➢ It offers value added services such as notification engine, workflow, mobile application, track and trace, better security features, improved inclusion by offering dashboard for those with no IT capability.

Note:

- ➤ A unique feature of 'PCS1x' is that it can **sync with the third party software** which provides services to the maritime industry thereby enabling the stakeholders to **access wide network of services**.

- ➤ Another major feature is the deployment of a world class state of the art payment aggregator solution which removes dependency on bank specific payment ecosystem. It is estimated that this feature alone will **drastically reduce transaction time**.

- ➤ The platform has the potential to revolutionize **maritime trade** in India and bring it at par with global best practices and pave the way to improve the **Ease of Doing Business world ranking** and **Logistics Performance Index (LPI) ranks**.

- ➤ The system supports green initiatives by reducing dependency on paper. The web-based platform has been developed indigenously and is a part of the **'Make in India'** and **'Digital India'** initiative.

Logistics Performance Index (LPI)

- ➤ The Logistics Performance Index, **developed by the World Bank Group,** is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance.

- ➤ LPI is the weighted average of the country's scores on the **six key dimensions**:
  - ○ Efficiency of the clearance process (i.e., speed, simplicity and predictability of formalities) by border control agencies, including customs;
  - ○ **Quality of trade** and transport related infrastructure (e.g., ports, railroads, roads, information technology);
  - ○ Ease of **arranging competitively priced shipments**;
  - ○ Competence and quality of **logistics services** (e.g., transport operators, customs brokers);
  - ○ Ability to **track and trace consignments**;

  - ○ Timeliness of shipments in reaching destination within the scheduled or expected **delivery time**.

Ease of Doing Business

- ➤ **Ease of Doing Business Report** is also released by the **World Bank**.

- ➤ It provides an assessment of objective measures of business regulations and their enforcement across 190 economies on ten parameters affecting a business through its life cycle.

Food Sustainability Index (FSI)

The Food Sustainability Index (FSI), is developed by **The Economist Intelligence Unit** with the **Barilla Center for Food & Nutrition**.

- ➤ 2018 FSI editions' title was **'Fixing Food-2018: Best Practices towards the Sustainable Development Goals'**.

- ➤ It is a model designed **to assess the sustainability of national food systems** in a qualitative and quantitative manner. A 'food system' involves the infrastructure and processes that go into feeding the population, such as growing, harvesting and transportation.

- ➤ The Food Sustainability Index is based on three broad categories: **food loss & waste, sustainable agriculture and nutritional challenges**.

- ➤ A comparison with the global scenario indicates that India does well on preventing food loss and wastage, but is below average in sustainable agriculture and is one of the worst while tackling nutritional challenges.

- ➤ According to the report, India's foodgrain production has been increasing steadily over the years, reaching a record level in 2018.

- ➤ Despite the increase in food production, it ranks India 33rd among 67 countries in 2018. Among BRICS countries, only China (23) is ranked better than India.

- ➤ **France topped the index** followed by Netherlands and Canada.

- ➤ The **first edition** of the FSI was **published in 2016**.

∎∎∎

Note:

International Relations

Highlights

G20 Summit 2018

Recently, G20 (Group of Twenty) Summit was held in **Buenos Aires, Argentina**.

➢ It was the first meeting of G20 in South America.

➢ G20 is the leading international forum for economic, financial and political cooperation.

➢ **India will be hosting the G20 summit in 2022.** In past Japan and Saudi Arabia hosted G20 meetings in 2019 and 2020 respectively.

Key Points from the communique

➢ **Climate change**
  ○ G20 members, except the US, pledged for the "full implementation" of the paris agreement.
  ○ The US reiterated its withdrawal from the Paris agreement. While it affirmed its strong commitment to economic growth, energy access and security.

➢ **Trade**
  ○ Under US pressure, the G20 said that multilateral trade was "falling short of its objectives" on promoting growth and job creation.
  ○ It called for reforms of the World Trade Organisation to improve its functioning.

➢ **International Monetary Fund (IMF)**
  ○ The G20 called IMF as important to the **global safety net**.
  ○ The G20 pledged to provide adequate funding to IMF and to meet a goal of finalizing new national quotas in IMF in time.
  ○ Major emerging economies in the G20 such as China and India are pushing for reforms at the IMF.

➢ **Corruption**
  ○ The communique said that the G20 is "committed to prevent and fight corruption."

➢ **Gender inequality**
  ○ The G20 committed itself to a goal of reducing by 25% the gender gap in the labor force by the year 2025.

➢ **Future of work**
  ○ Noting that new technologies will transform the nature of labor, the G20 called for "an inclusive, fair and sustainable" future of work, with retraining of workers where needed.

➢ **Infrastructure**
  ○ Calling infrastructure a key driver of global growth, the G20 called for greater standardization in contract-making to encourage more private capital.

India at G20-2018

➢ India presented **Nine Point Agenda** suggested to G-20 for action **against fugitive economic offenses and asset recovery**:

1. **Strong and active cooperation across G-20 countries** to deal comprehensively and efficiently with the menace of fugitive economic offenders.

2. **Cooperation in the legal processes** such as effective **freezing of the proceeds of crime; early return of the offenders and efficient repatriation** of the proceeds of crime should be enhanced and streamlined.

3. To form a mechanism that denies entry and safe havens to all fugitive economic offenders.

4. Principles of **United Nations Convention Against Corruption (UNCAC), United Nations Convention Against Transnational Organized Crime (UNOTC),** especially related to "International Cooperation" should be fully and effectively implemented.

Note:

5. **Financial Action Task Force (FATF)** should be called upon to assign priority and focus to establishing international co-operation that leads to the timely and comprehensive exchange of information between the competent authorities and Financial Intelligence Units (FIUs).

6. FATF should be tasked to formulate a **standard definition of fugitive economic offenders**.

7. FATF should also develop a set of commonly agreed and **standardized procedures related to identification, extradition and judicial proceedings for dealing with fugitive economic offenders** to provide guidance and assistance to G-20 countries, subject to their domestic law.

8. A **common platform should be set up for sharing experiences and best practices** including successful cases of extradition, gaps in existing systems of extradition and legal assistance, etc.

9. G-20 Forum should consider initiating **work on locating properties of economic offenders who have a tax debt in the country of their residence for its recovery**.

➤ India also held a number of bilateral and multilateral meetings on the sidelines of G20 like informal **BRICS meeting, "RIC" Meeting, "JAI" Meeting**.

JAI Trilateral

➤ JAI is acronym for **Japan, America (US)** and **India**.

➤ It was the first-ever trilateral meeting held by three countries at the highest political level.

RIC Trilateral

➤ India also participated in a trilateral meeting with **Russia** and **China**.

➤ The first RIC Trilateral summit was held in 2006.

Group of Twenty (G20) – Historical Background

➤ **Founded: 1999**

○ Initially, G20 was a forum of Finance Ministers and Central Bank Governors of industrialized and developing economies to discuss key issues in the global economy.

○ The group has **expanded its agenda since 2008** and head of government and states along with their finance and foreign ministers also meet at the summits.

○ Collectively, the G20 members make up **85% of the world's economic output, two-thirds of its population, 75% of international trade and 80% of global investments in research and development**.

➤ The **G20 has neither headquarters nor permanent staff**. All organizational and logistical arrangements for meetings are handled by the country which is currently presiding over the group.

➤ **Members**

○ G20 members comprise **Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the UK, and the US**.

○ The European Union is represented by the country which holds the EU presidency.

○ The **United Nations (UN), IMF and the World Bank also attend G20 meetings**.

○ Spain is a permanent guest invitee.

➤ **Two Tracks of G20:**

○ The **Finance track** comprises all meetings with G20 finance ministers and central bank governors and their deputies.

● They focus on financial and economic issues, such as monetary, fiscal and exchange rate policies, infrastructure investment, financial regulation, financial inclusion and international taxation.

○ The **Sherpa track** focuses on broader issues such as political engagement, anti-corruption, development, trade, energy and climate change, gender equality, among others.

➤ **Major Achievements of G20**

○ Major achievements of the G20 include quick **deployment of emergency funding during the 2008 global financial crisis**.

○ It also works for **reforms in international financial institutions** by improving oversight of national financial institutions.

India Russia Strategic Economic Dialogue

First ever India-Russia Strategic Economic Dialogue was held at St. Petersburg in Russia to identify greater synergy in trade and investment.

➢ The decision to hold strategic economic dialogue was taken during the **19th India-Russia Annual Summit** held in October 2018 in New Delhi.

➢ The Indian side was led by NITI Aayog Vice Chairman, while the Russian delegation was headed by Economic Development Minister.

➢ The Strategic Economic Dialogue focused on five core areas – **Transport Infrastructure, Agriculture and agro-processing sector, Small & Medium Business support, Digital Transformation & Frontier technologies and Industrial & Trade Cooperation**.

➢ Through the dialogue, a number of issues can be addressed that hinder India-Russia trade like **connectivity issues, distance, weak banking links, cumbersome regulations on both sides and Russia's restrictive visa regime**.

➢ The next round of Strategic Economic dialogue will be held in end-July/August 2019 in India.

Areas of Cooperation Discussed

➢ **Operationalization of INSTC** (International North-South Transport Corridor) route on priority and early organization of its coordination council.
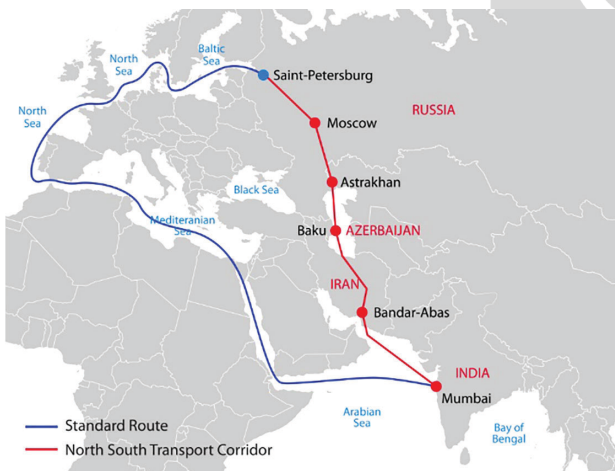
➢ **Improvement of Inland Waterways in India** through Russian collaboration and setting up of special techno-parks for Russian investments.

➢ **Addressing market restrictions** and access for both sides on agri-products, textiles, diamonds and establishing a broader dialogue on national currencies.

➢ Joint action by Public and Private sector in nurturing Small and Medium Enterprises, including information exchange mechanism needed to access credit and market and for learning from best practices and mutual recognition of each others companies.

➢ On the digital front, **cooperation in Financial Technology, Artificial Intelligence (AI), blockchain system and Quantum Computing**.

➢ Joint working arrangements and pilot projects in healthcare, Tourism, projects which can be developed for third-country markets, and to invest resources jointly in projects in the far eastern region of the Russian Federation.

Importance of Strategic Economic Dialogue

➢ India had shared strong ties with the former Soviet Union as which was India's biggest defense and trade partner during the Cold War. Despite having a Special and Privileged Strategic Partnership, India-Russia relation faces a number of challenges.

➢ The reasons for the downturn in relations:
   ○ In 2017, the trade between the two countries was around $10 billion. **They account for a meager 1% of each other's total trade volume.**
   ○ In the wake of the Ukraine crisis in 2013, **Russia's proximity with China increased**.
   ○ **India's efforts at diversifying its defense procurement** and thus bringing in other partners such as the United States, Israel, and France has also impacted the relations.
   ○ India's **growing proximity to the United States**.

➢ As the defense cooperation is decreasing it is necessary for both nations to develop a strong bilateral economic and trade relationship. A weak economic base is a problematic part of India Russia engagement which requires attention for long-term sustenance of the strategic partnership.

➢ The importance of strategic dialogue is to identify areas where both countries could work together to further improve their trade and economic cooperation.

Way Forward

➢ A strategic bilateral relationship between major powers cannot be sustained without a strong economic partnership as strong trade relations bring strategic character to the relationship.

➢ The **good political ties between India and Russia are not reflected in their economic links**. Thus, the institution of Strategic Economic Dialogue is a positive step to address this issue given it leads to substantial changes on the ground.

Note:

➢ Measures like the **International North-South Transport Corridor (INSTC)** can solve the connectivity issue between the two.

➢ There is a need to expedite the free trade negotiations between India and Russia steered Eurasian Economic Union (EEU). Once finalized, the FTA with EEU aided by INSTC could increase India-Russia trade manifold.

International North-South Transport Corridor

➢ INSTC is a multi-modal transportation route linking the Indian Ocean and the Persian Gulf to the Caspian Sea via Iran, and onward to northern Europe via St. Petersburg in Russia.

➢ The INSTC was initiated by Russia, India, and Iran in Sept 2000 to establish transportation networks among the member states and to enhance connectivity with the landlocked region of Central Asia.

Eurasian Economic Union

➢ The Eurasian Economic Union **was started in 2015** based on the Customs Union of Russia, Kazakhstan and Belarus.

➢ The bloc was launched to ensure the free movement of goods, services, capital and workforce within its borders.

➢ **Members:** Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia.

India to Chair Kimberley Process

India will chair the **Kimberley System Certification Scheme (KPCS) which is also known as Kimberley Process (KP) from January 2019**.

➢ India took over the Chairmanship of the Kimberley System Certification Scheme (KPCS) during the KPCS Plenary 2018, which was held in **Belgium in November, 2018**.

➢ India, during its chairmanship will continue with the tradition and aim to support the artisanal and small-scale mining, capacity building, technical assistance and education on valuation, differentiation between natural and lab grown diamonds, importance of legal and formal mining practices.

➢ The **next Intersessional session is slated to be held in India** with Botswana and the Russian Federation serving as Vice-Chair during the period of 2019-2020.

Kimberley Process

➢ The Kimberley Process (KP) is a commitment to remove **conflict diamonds** from the global supply chain.

➢ Kimberley is a city in South Africa which hosted the founding meeting of Kimberley Process in the year 2000.

Conflict diamonds, **also known** as **'blood' diamonds,** are rough diamonds used by rebel movements or their allies to finance armed conflicts **aimed at undermining legitimate governments**.

➢ It is an international certification scheme which **came into force in 2003** to regulate trade in rough diamonds. It aims to prevent the flow of conflict diamonds, while helping to protect legitimate trade in rough diamonds.

➢ The Kimberley Process is **also described in the United Nation Security Council (UNSC) Resolutions**.

➢ The KP is not an international organisation: it has **no permanent offices or permanent staff**. It relies on the contributions – under the **principle of 'burden-sharing'** – of participants, supported by industry and civil society observers.

➢ The Kimberley Process (KP) is a **binding agreement** that imposes extensive requirements through the **national legislations** of its participants.

➢ **India is the founding member** of Kimberley Process Certification Scheme (KPCS).

USMCA Trade Deal

➢ The **United States, Canada** and **Mexico** have reached an agreement to **replace the North American Free Trade Agreement (NAFTA)**.

➢ The original 1994 NAFTA deal has also been renamed as the **United States-Mexico-Canada Agreement or USMCA**.

➢ The goal of NAFTA was to encourage economic activity by eliminating barriers to trade and investment between the U.S., Canada and Mexico.

➢ USMCA will give workers, farmers, ranchers and businesses a high-standard trade agreement that will result in open markets, fairer trade and robust economic growth in the region.

➢ It will strengthen the middle class, and create good, well-paying jobs and new opportunities for the nearly half billion people of North America.

Note:

➤ Even though the deal does not do anything new to promote the cause of free trade among the North American nations, it achieves the objective of averting any significant damage to the international trade system.

➤ It is one of the examples where the trade pacts are shifting from global consensus to regional agreements.

39th GCC Summit

➤ **39th Gulf Cooperation Council (GCC)** summit took place in **Riyadh, Saudi Arabia**.

Gulf Cooperation Council

➤ The GCC is a political and economic alliance of countries in the Arabian Peninsula – **United Arab Emirates (UAE), Bahrain, Saudi Arabia, Oman, Qatar, Kuwait**.

➤ It was established in 1981 to foster socioeconomic, security, and cultural cooperation.

Bilateral Military Exercises

Name of Exercise	Participating Nations	Wing
SHINYUU Maitri-2018	Japan and India	Airforce
Cope India 2018	United States and India	Airforce
Avia Indra 2018	India and Russia	Airforce
Dharma Guardian	Japan and India	Military
Hand-In-Hand	India and China	Military
JIMEX	Japan and India	Navy
Indra Navy	India and Russia	Navy

■■■

Note:

Science and Technology

Highlights

- OSIRIS-REx Spacecraft Arrives at Asteroid Bennu *(18)*
- Chang'e-4 Lunar Probe Mission *(19)*
- Voyager 2 Enters Interstellar Space *(20)*
- GSAT-11 Launched *(21)*
- New Campaign to Eliminate Trans Fats by 2022 *(22)*
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- Telerobotic Coronary Surgery in Gujarat *(25)*
- Bioplastics Have Less Positive Effect than Expected *(25)*
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OSIRIS-REx Spacecraft Arrives at Asteroid Bennu

OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer) mission has arrived at asteroid Bennu after a two-year journey.

➢ OSIRIS-REx was launched from Cape Canaveral, Florida on September 8, 2016.

➢ The OSIRIS-REx mission is not the first to ever visit an asteroid and attempt a sample return — **Japan has done (Hayabusa Mission) it before and Europe (Rosetta Mission) has managed to land on a comet**.

➢ OSIRIS-REx has found traces of hydrogen and oxygen molecules on Bennu thus showing the potential for life.

Mission

➢ The Mission aims to study asteroid Bennu, **collect a sample and return it to Earth in 2023**.

➢ The mission will spend 2.5 years, mapping its surface and studying its composition.

Mission Objective

➢ The OSIRIS-REx name is an acronym containing of the mission objectives, which are:
  - **Origins:** Return and analyze a pristine carbon-rich asteroid sample
  - **Spectral Interpretation:** Provide ground truth or direct observations for telescopic data of the entire asteroid population

  - **Resource Identification:** Map the chemistry and mineralogy of a primitive carbon-rich asteroid
  - **Security:** Measure the effect of sunlight on the orbit of a small asteroid, known as the Yarkovsky effect—the slight push created when the asteroid absorbs sunlight and re-emits that energy as heat
  - **Regolith Explorer:** Document the regolith (layer of loose, outer material) at the sampling site at scales down to the sub-centimeter

Significance of Mission

➢ **Origins of the Solar System**
  - This mission will help in understanding the origin and evolution of the solar system.
  - As Earth formed, and afterward, objects like Bennu delivered these materials to the planet. Studying Bennu, can provide better understanding of origin of life on earth.

➢ **Protecting Earth**
  - Bennu is one of the most potentially hazardous asteroids currently known to Earth. Bennu has a 1-in-2,700 chance of impacting earth during one of its close approaches to Earth in the late 22nd century.
  - Close observations by OSIRIS-REx will help get more information about Bennu's journey and help scientists working on safeguarding the Earth against hazardous asteroids.

➢ **Mining, LaunchPad, and Future Explorations**

Note:

❍ The mission will help to explore the possibility of using asteroids as refueling stations for spacecraft on the way to farther-flung destinations.

❍ Asteroids contain a range of valuable minerals, hence there is a possibility of mining asteroids in the future.

Bennu

➢ The asteroid was discovered by the **Lincoln Near-Earth Asteroid Research (LINEAR)** survey on September 11, 1999.

➢ It was originally named as **1999 RQ36**.

➢ The name Bennu comes from an Egyptian deity related to the Sun, often depicted as a gray heron.

➢ Bennu is a 500-meter wide asteroid in an elliptical orbit around the sun. It is a **carbonaceous asteroid** composition including a large amount of carbon.

Why Bennu?

➢ **It's proximity to Earth**

❍ Bennu's orbit is in close proximity to Earth's own orbit, even crossing it. The asteroid makes its closest approach to Earth every 6 years.

❍ It also circles the Sun nearly in the same plane as Earth, which makes it simple to launch the spacecraft out of Earth's plane and into Bennu's plane.

➢ **It's the right size**

❍ Small asteroids, with diameters of 200 meters or less, spin very fast. This rapid spinning makes it difficult for a spacecraft to match an asteroid's velocity and collect samples.

❍ Bennu's size makes it approachable and makes landing possible.

Chang'e-4 Lunar Probe Mission

China has launched a lunar probe mission to the far side of the moon.

➢ Chang'e-4 is the **first probe ever to explore the far side of the moon**. Previous spacecrafts have captured the images of the far side of the Moon, but none has landed on it.

➢ The Chang'e-4 lunar probe mission is **named after the moon goddess** in Chinese mythology.

➢ Chang'e-4 includes two main parts: the main lander and a rover named as Yutu-2.

➢ **Landing Site:** The rover will land in the Von Kármán crater on the far side of the moon.

Mission Objectives

➢ The instruments on the rover and the lander will help in **identifying the composition of rocks and dirt on the far side of the moon**. It will study the effects of the solar wind striking the lunar surface.

➢ Chang'e-4 will also test the ability of making radio astronomy observations from the far side of the moon, without the effects of noise and interference from Earth.

➢ Chang'e-4 will also **conduct a biology experiment to see if plant seeds will germinate** and silkworm eggs will hatch in the moon's low gravity.

Significance of the Mission

➢ The mission will help in **studying formation and early evolution of the moon,** which, if understood, could guide us in planetary studies, and help in understanding exoplanets.

➢ The moon's **near side is believed to be a thinner shell, and the far side is thicker**. This mission could **verify these theories** and discover the reason behind these dichotomies.

➢ China is now a part of group of nations along with the U.S. and the former USSR that have successfully made a "soft landing" on the moon.

Challenges

➢ **Landing**

❍ Unlike the near side of the moon which always faces the earth, and offers many flat areas for rovers to land, the far side is mountainous and rugged.

➢ **Communication**

❍ The moon is tidally locked to the rotation of the Earth. Thus, the moon blocks radio signals from our planet to far side of the moon making it difficult to directly communicate with the probe.

❍ To overcome this, China has launched a satellite, called **Queqiao,** in May 2018. It is circling high over the far side of the moon, and will relay messages between Earth and the Chang'e-4 lander.

Note:

What is Far Side of the Moon

➤ This is a part of the moon that we don't see from Earth as the moon always keeps the same side facing towards the earth due to tidal locking.

Tidal Locking

➤ Tidal locking is the name given to the situation when an object's orbital period matches its rotational period.

➤ The moon takes 28 days to go around the Earth and 28 days to rotate once around its axis. This results in the same face of the Moon always facing the Earth.

China's Lunar Missions

➤ Orbital Missions: Chang'e-1 and Chang'e-2 are orbital mission around the moon.Chang'e-1 was launched in 2007. Chang'e-2 in 2010.

➤ Soft Landers/Rovers: Chang'e-3 and Chang'e-4 are the rover mission on the moon. Chang'e-3 and Chang'e-4 were launched in 2013 and 2018 respectively.

➤ Sample Return: Chang'e-5 robotic spacecraft will land on the moon and then bring rock samples back to Earth for additional study. It is Expected to be launched in 2019.

Voyager 2 Enters Interstellar Space

NASA's Voyager 2 has become the second human-made object in history to exit the **Heliosphere** (bubble created by solar winds).

➤ Spacecraft Voyager 1, crossed this boundary in 2012.

➤ The Voyager spacecrafts are the third and fourth spacecrafts to fly beyond all the planets in our solar system. Pioneers 10 and 11 preceded Voyager in going beyond the planets in the solar system.

➤ Voyager 2 is the only spacecraft to have visited all four gas giant planets — Jupiter, Saturn, Uranus, and Neptune.

➤ The two probes, Voyager 1 and Voyager 2 have left the heliosphere, but have not yet left the solar system as they are not out of the sun's gravitational field yet.

Significance and Challenges

➤ Together, the two Voyagers provide a detailed information on **how heliosphere interacts with the constant interstellar wind flowing from outer space**.

Their observations will be used to complement data from NASA's Interstellar Boundary Explorer (IBEX), a mission that is remotely sensing the solar system's boundary.

➤ The challenge for the spacecraft operations is to deal with the gradual loss of heat and power. Voyager 2 is currently operating in temperatures of just about 38.5 degrees Fahrenheit (3.6 degrees Celsius), and for each year that passes the spacecraft's power production drops 4 watts.

The Mission

➤ Launch: Voyager 2 was launched on August 20, 1977, and Voyager 1 was launched on September 5, 1977.

➤ The spacecraft were built to last five years and conduct close-up studies of Jupiter and Saturn.

➤ Voyager 2 is NASA's longest-running mission.

Terminologies

➤ **Termination Shock**

○ Blowing outward billions of kilometers from the Sun is the solar wind, a thin stream of electrically charged gas. This wind travels at an average speed ranging from 300 to 700 kilometers per second (700,000 - 1,500,000 miles per hour) until it reaches the termination shock. At this point, the speed of the solar wind drops abruptly as it comes in contact with the interstellar wind.

➤ **Heliosphere**

○ The solar wind, emanating from the Sun, creates a bubble that extends far past the orbits of the planets. This bubble is the heliosphere, shaped like a long windsock as it moves with the Sun through interstellar space.

➤ **Heliosheath**

○ The heliosheath is the outer region of the heliosphere, just beyond the termination shock, the point where the solar wind slows abruptly, becoming denser and hotter. The solar wind piles up as it presses outward against the approaching wind in interstellar space.

➤ **Heliopause**

○ The boundary between solar wind and the interstellar wind is the heliopause, where the pressure of the two winds are in balance. This balance in pressure causes the solar wind to turn back and flow down the tail of the heliosphere.

> **Bow Shock**
>> As the heliosphere plows through interstellar space, a bow shock forms, similar to what forms as a ship plowing through the ocean.

> **Oort Cloud**
>> It is a collection of small objects that are still under the influence of the sun's gravity.
>> The boundary of the solar system is considered to be beyond the outer edge of the Oort Cloud.
>> The width of the Oort Cloud is not known precisely, but it is estimated to begin at about 1,000 astronomical units (AU) from the sun and to extend to about 100,000 AU (1 AU is the distance from the sun to Earth).

> **The Golden Record**
>> The Golden Record is the 12-inch gold-plated copper disk, phonograph record onboard Voyager 1 and 2. It carries data containing sounds and images selected to portray the diversity of life and culture on Earth.

> **Deep Space Network**
>> The Deep Space Network (DSN) supports NASA and non-NASA missions that explore the furthest points of our solar system. The DSN has three ground stations located approximately 120 degrees apart on Earth (120 + 120 + 120 = 360). This is to ensure that any satellite in deep space is able to communicate with at least one station at all times.
>> **Location of DSN:**
>> - Canberra, Australia
>> - Madrid, Spain
>> - Goldstone, California, US

> **Interstellar Mapping and Acceleration Probe**
>> It is NASA's additional mission due to launch in 2024 to follow on the Voyagers' observations.

> **Interstellar Boundary Explorer (IBEX)**
>> NASA's Interstellar Boundary Explorer (IBEX) mission objective is to discover the nature of the interactions between the solar wind and the interstellar medium at the edge of our solar system.
>> It was launched on Oct. 19, 2008.

Heliosphere
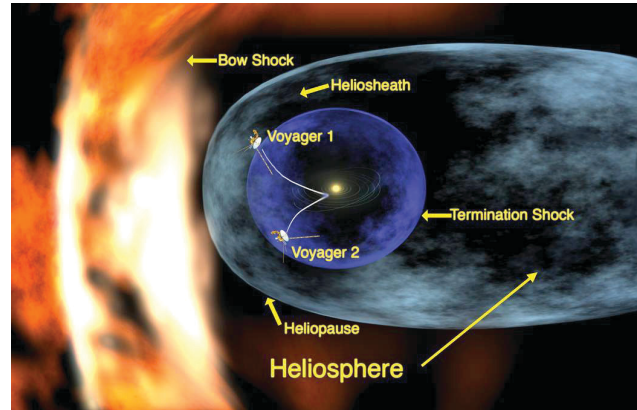
GSAT-11 Launched

Indian Space Research Organization's (ISRO) **heaviest communication satellite** GSAT-11 was **launched by European Space Agency's (ESA) Ariane-5 Rocket,** from Guiana Space Centre, French Guiana, South America.

> ISRO's rocket **GSLV III** can carry load up to **4000 kilograms**. Beyond that capacity, all heavier ISRO payloads are launched by ESA.

> GSAT-11 is part of ISRO's high-throughput communication satellite (HTS) fleet. Two HTSs — GSAT-29 and GSAT-19 are already in space.

GSAT-11
> GSAT-11 is an advanced communication satellite.
> Mass: 5,854 Kg
> Orbit type: Geostationary Orbit
> Mission Life: 15 Years

Applications

> **Faster Internet Connectivity:** It will enable greater capacity and high data rates over region due to use of the spot beam technology, inproviding a broad band services across country.
>> The broadband domain in India is through the underground fiber and covers partial and convenient locations. GSAT will drive the country's Internet broadband from space to untouched areas.

> **Bharat Net Connectivity:** It will provide substantial bandwidth coverage to gram panchayats for supporting e-governance and other platforms.

> **VSAT Terminals:** Very Small Aperture Terminal (VSAT) support high data rate applications for enterprise network and consumer broadband applications.

Note:

Spot Beam

➤ A spot beam is a satellite signal which covers only a limited geographical area. The narrower the beam greater the power. The satellite reuse beams (signals) several times in order to cover the entire country.

Types of Orbits
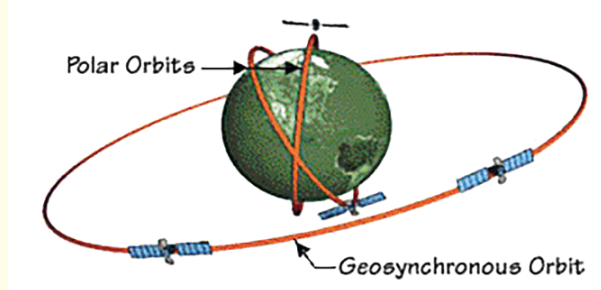
In general, there are two types of orbits:

➤ **Polar Synchronous Orbit**
 ○ A polar orbit travels **north-south over the poles** and takes approximately **90 minutes for a full rotation**.
 ○ These orbits have an **inclination near 90 degrees**. This allows the satellite to see virtually every part of the Earth as the Earth rotates underneath it.
 ○ These satellites have many uses such as **monitoring crops, global security, measuring ozone concentrations in the stratosphere or measuring temperatures in the atmosphere**.
 ○ An orbit is called **sun-synchronous** when the angle between the **line joining the center of the Earth and the satellite and the Sun is constant throughout the orbit**.
 ○ These orbits are also referred to as **"Low Earth Orbit (LEO)"**.
 ○ **It passes over any given point on Earth's surface at the same local solar time.**

➤ **Geosynchronous Orbit**
 ○ Geosynchronous satellites are launched into orbit in the same direction the Earth is spinning and can have any inclination.
 ○ When the satellite is in orbit at a specific altitude (approximately 36,000 km above the Earth's surface), **it will exactly match the rotation of the Earth**.

 ○ While, **Geostationary orbits** fall in the same category as geosynchronous orbits, but with that one special quality of being **parked over the equator**.
 ○ To attain geostationary or geosynchronous earth orbits, a spacecraft is first launched into a Geosynchronous Transfer Orbit. From the **GTO the spacecraft uses its engines to shift to geostationary or geosynchronous orbit**.

New Campaign to Eliminate Trans Fats by 2022

➤ The Food Safety and Standards Authority of India (FSSAI) launched a **new mass media campaign** to eliminate industrially produced trans fat in the food supply by 2022.
 ○ **"Heart Attack Rewind",** the 30 second public service announcement (PSA) - the first mass media campaign of its kind – will support FSSAI target of **eliminating trans fat in India by the year 2022**.
 ○ The target year 2022 is a year ahead of the target of complete elimination of trans fat by the World Health Organization (WHO).
 ○ The campaign will warn citizens about the health hazards of consuming trans fats and offer strategies to avoid them through healthier alternatives.
➤ "Heart Attack Rewind" is a **follow-up to an earlier campaign called "Eat Right",** which was launched in July, 2018.
➤ **Swasth Bharat Yatra,** an initiative started **under the "Eat Right"** campaign is a Pan-India cyclothon to engage citizens on issues of food safety, combating food adulteration and healthy diets.

Challenges in Eliminating Trans Fat by 2022

➤ The FSSAI does not have any **data on compliance to earlier limit of trans fats standards (5%) set by it in 2017**.
➤ The industry wants to continue with the 5% limit for the next five years on following grounds:
 ○ Consumption of trans fats in India is much lower than the world.
 ○ If asked to remove trans fats, the industry may shift to saturated fats which are worse for health.

Note:

Trans-fats

Trans fat facts

ALTERNATIVES

● Trans fatty acids (TFAs) are naturally found in small amounts in beef, Lamb and full-fat dairy products

● Re-use of cooking oil (heating above 180 degree can also produce TFA

● Partial hydrogenation produces TFAs which is proven to elevate "bad" cholesterol (LDL) and reduce "good" cholesterol (HDL)

● Food industry uses partially hydrogenated oil as it is inexpensive, improves flavour stability, taste and texture of the food and gives it long shelf life. However, this is leading to Cardiovascular Diseases (CVD) among population

● Interesterification is an alternative to hydrogenation; interesterified oils/fats has no trans fats and can be used by bakeries and food industry

● Typical foods containing high levels of TFA include fried foods like chips, cakes, biscuits, cookies, frozen pizza etc.

● Using factionated oil

● Using oil blends

● Fat replacers are an option

LIMITS

● FSSAI has set the limit of trans fat in food at 5% and has proposed limiting it to 2%

● WHO has proposed elimination of trans fat from global food supply by 2023

➤ There are **two types of trans-fats** found in foods- naturally occurring and artificial trans-fats.

➤ **Naturally occurring** trans-fats are produced in the gut of some animals and foods made from these animals may contain small quantities of these fats.

➤ Artificial trans-fats on the other hand are **created by the process hydrogenation,** which is an industrial process that adds hydrogen to liquid vegetable oils to make them solid at room temperature.

➤ The primary dietary source of trans-fats in processed foods is **partially hydrogenated oils**. Trans-fats are easy to use, inexpensive to produce and last a long time. They help give foods a desirable taste and texture.

➤ **Example of Trans-fats food:** cakes, pies, cookies, biscuits, margarine, cream-filled candies, fried fast foods, doughnuts, etc.

National Mission on Interdisciplinary Cyber-Physical Systems

The Union Cabinet has approved the launching of **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)** to be implemented by **Ministry of Science & Technology** for a period of **five years**.

➤ NM-ICPS covers entire India which includes Central Ministries, State Governments, Industry and Academia.

Cyber-Physical Systems (CPS)

➤ CPS refers to computer-based inference, decision and control in the context of physical systems like urban water networks, power grids and homes with a view to make them more effective or smarter.

➤ The range of technologies under CPS includes sensors and actuators, low power electronics, energy harvesters, dense scale wireless communication and distributed in-network computing and cloud computing.

➤ Few Potential applications of CPS: **Driverless cars** that communicate securely with each other **on smart roads,** Sensors in the home to **detect changing health conditions,** improving **agricultural practices** and enabling scientists to address issues arising out of climate change, etc.

➤ Basic technologies needed to design CPS are artificial intelligence, Internet of things, machine learning, data science and predictive analytics, deep learning, big data analytics, robotics, quantum computing, encryption, cyber security, GIS and block-chain technology.

➤ Advances in cyber-physical systems will enable capability, adaptability, scalability, resiliency, safety, security and usability that will far exceed the simple embedded systems of today.

Objective

➤ The NM-ICPS is a comprehensive Mission which would address technology development, application development, human resource development & skill enhancement, entrepreneurship and start-up development in Cyber Physical System (CPS) and associated technologies.

➤ The Mission aims at establishment of **15 Technology Innovation Hubs (TIH), six Application Innovation Hubs (AIH)** and **four Technology Translation Research Parks (TTRP)**.

➤ These Hubs & TTRPs will connect to **Academics, Industry, Central Ministries and State Government** in developing solutions at reputed academic, R&D and other organizations across the country in a hub and spoke model.

➤ The Hubs & TTRPs have **four focused areas** along which the Mission implementation would proceed, namely:

❍ Technology Development,

❍ HRD & Skill Development,

❍ Innovation, Entrepreneurship & Start-ups Ecosystem Development, and

❍ International Collaborations.

Note:

Impact

➢ CPS technologies provide a **cutting edge to a nation's scientific, engineering, and technological innovative capabilities;** support other missions of the government, provide industrial and economic competitiveness and have truly **become a strategic resource**.

➢ The proposed Mission would act as an **engine of growth that would benefit national initiatives** in health, education, energy, environment, agriculture, strategic cum security, and industrial sectors. It would also contribute to Industry 4.0, SMART Cities, Sustainable Development Goals (SDGs) etc.

➢ The **job opportunities will be enhanced** through the Mission by imparting advanced skills and generating skilled manpower as per the requirement of the industry/society. Accordingly, it is estimated that, about 40,000 jobs will be created in the short term and about 2,00,000 in long term.

Digital Sky Platform: Drone Regulations 1.0

The guidelines **(Drone Regulations 1.0)** issued by Directorate General of Civil Aviation (DGCA) for commercial use of drones or remotely operated aircraft **came into force from December 1, 2018**.

Drone Regulation 1.0

➢ Under this regulation, the **Digital Sky Platform** will enable online registration of pilots, devices, service providers, and NPNT (no permission, no take-off).

    ❍ The Digital Sky Platform is a unique unmanned traffic management (UTM) system which is expected to facilitate registration and licensing of drones and operators in addition to giving **instant (online) clearances to operators** for every flight.

➢ The airspace has been partitioned into **Red Zone (flying not permitted), Yellow Zone (controlled airspace),** and **Green Zone (automatic permission)**. The restricted locations are airports, near international border, near coast line, state secretariat, complexes strategic locations, military installations.

Drone
➢ Drone is a layman terminology for Unmanned Aircraft (UA). There are **three subsets of Unmanned Aircraft—Remotely Piloted Aircraft, Autonomous Aircraft and Model Aircraft**.

    ❍ Remotely Piloted Aircraft consists of remote pilot station (s), the required command and control links and any other components, as specified in the type design.

➢ Remotely piloted aircraft have been divided into **five categories**—

    ❍ **Nano:** Less than or equal to 250 grams.

    ❍ **Micro:** From 250 grams to 2 kg.

    ❍ **Small:** From 2 kg to 25 kg.

    ❍ **Medium:** From 25 kg to 150 kg.

    ❍ **Large:** Greater than 150 kg.

➢ All civilian drone operations will be restricted to **only during day time** and a **maximum of 400 feet altitude**.

➢ There can't be any human or animal payloads, or anything hazardous.

➢ It cannot in any manner cause danger to people or property and insurance will be mandatory to cover third-party damage.

➢ **Except nano drones** and those **owned by National Technical Research Organisation and the central agencies,** the rest would be registered and issued Unique Identification Number.

Drone Regulations 2.0

➢ Meanwhile, the government is already working on **drone regulations 2.0,** focussing on three thresholds:

    ❍ BVLOS (Beyond Visual Line of Sight)

    ❍ Delivery of payloads

    ❍ Automate the air traffic management to the extent possible

➢ The current policy allows one drone pilot for each drone whereas in the next set of regulations, one pilot can operate any number of drones.

➢ Under drone regulations 2.0, the drones will be tracked by computers through artificial intelligence.

➢ However, delivery of products by e-commerce players like Amazon and flying taxis like Uber Elevate are likely to be part of drone regulations 3.0.

Applications

➢ **Agriculture:** Gather data and automate processes to maximize efficiency, to spray medicines, in a process of planting by distributing seed on the land, etc.

- ➤ **Healthcare:** Delivering quick access to drugs, blood, and medical technology in remote areas, transportation of harvested organs to recipients (through drones corridor), etc.
- ➤ **Disaster Management:** Surveillance of disaster-affected areas to assess damage, locate victims, and deliver aid.
- ➤ **Urban Planning:** Instant mapping and survey of the land which has to be developed avoiding congestion and increasing green cover. **E.g.:** Recently, the Greater Chennai Municipal Corporation (GCMC) became first Municipal Corporation to map Chennai using drones.
- ➤ **Conservation of Endangered Species:** Monitor and track the number of animals.
- ➤ **Weather Forecasting:** Drones can physically follow weather patterns as they develop to understand the environment and imminent weather trends in a better way.
- ➤ **Waste Management:** Identify where the garbage is so that it can be picked up the garbage picking vans. Drones can be used to clean ocean waste as well. UAV like Roomba by RanMarine operates at the vanguard of these initiatives and have helped to clean oceans in past.
- ➤ **Mining:** Drones in mining can be used in volumetric data capturing of ore, rock and minerals storage which is extremely difficult to measure manually.

Way Forward

- ➤ It can provide strong impetus to all players in the drone ecosystem and place India among the global leaders; propelling India's Economy.

Telerobotic Coronary Surgery in Gujarat

India became the **first country** to perform a telerobotic coronary surgery on human.

- ➤ The telerobotic coronary intervention was **performed in Gujarat** by Padma Shri and noted cardiologist Dr Tejas Patel on a middle-aged woman who had volunteered for the first experimental coronary stenting.
- ➤ Tele-robotic surgery is performed at a distance from the patient from a remote location using robotically controlled instruments. It is enabled by computer technology.
- ➤ The coronary intervention operation is also popularly known as **stent placing in the arteries**.

- ➤ The robotic surgery is common in many countries but so far nowhere it had been performed through telerobots away from the operation theatre.

Significance

- ➤ It will enable the cardiologists to **perform surgery on the needy patients on emergency basis** even from a distance.
- ➤ It has the potential to dramatically **improve the access of doctors to patients with heart and stroke ailments,** especially in rural and under-served areas.

> **Telemedicine**
> - ➤ Telemedicine is an upcoming field in health science arising out of the effective **fusion of Information and Communication Technologies (ICT) with Medical Science**.
> - ➤ **Objective: Cross the geographical barriers** and **provide healthcare facilities to rural and remote areas (health for all).**

Advantages of Telemedicine

- ➤ Eliminate distance barriers and improve access to quality health services.
- ➤ In emergency and critical care situations where moving a patient may be undesirable and/or not feasible.
- ➤ Facilitate patients and rural practitioners' access to specialist health services and support.
- ➤ Lessen the inconvenience and/or cost of patient transfers.

Bioplastics Have Less Positive Effect than Expected

A recent study from the **University of Bonn** suggests that shifting to bioplastics may have less positive effects than previously expected.

- ➤ The study also found that it will take a lot of time to switch to bioplastics from single-use plastics.

What is Bioplastic?

- ➤ **Bioplastic refers to plastic made from plants like maize, wheat or sugarcane or other biological material instead of petroleum.** Bio-plastics are biodegradable and compostable plastic materials.
- ➤ It can be made by extracting sugar from plants like corn and sugarcane and converting it into polylactic acids

(PLA). It can also be made from polyhydroxyalkanoates (PHA) from microorganisms.

➢ PLA plastic is commonly used in food packaging, while PHA is often used in medical devices like sutures and cardiovascular patches.

How it is better than Single-Use Plastics?

➢ A **climate-friendly alternative to petroleum-based plastics**.

➢ Plastics are usually made from petroleum and lead **to fossil fuel depletion along with negative impact on climate**.

➢ It is estimated that by 2050, plastics will be responsible for 15% of the global CO_2 emissions.

➢ Bioplastics are climate-neutral, unlike petroleum based which results in carbon emission.

Impact of Bioplastics

➢ **Cropland Expansion:** Increase in use of bioplastics may trigger cropland expansion on the global scale, which will further increase greenhouse gas emissions.

➢ **Deforestation:** The production of bioplastics in large amounts might change land use globally. This could lead to an increase in the conversion of forest areas to arable land for agriculture. **Food Scarcity:** Using a substance like corn for plastic instead of food may cause food constraints in an increasingly food-scarce world.

➢ **Industrial composting required:** Industrial composting is necessary to heat the bioplastic to a high enough temperature that allows microbes to break it down. If they end up in marine environments, they'll function similarly to petroleum-based plastic. Thus, establishing large-scale plants for Industrial composting of bioplastics may not be economically and environmentally feasible.

Environment Day 2018
➢ The theme of United Nations Environment Day 2018 celebrated on June 5 was **Beat Plastic Pollution**.

➢ UN Environment Day in 2018 was hosted by India.

Greenwashing
➢ Greenwashing is the practice of making an **unsubstantiated or misleading claim about the environmental benefits of a product,** service, technology or company practice. Greenwashing can make a company appear to be more environment friendly than it really is.

Successful Test Firing of Agni V

India successfully tested its **nuclear-capable intercontinental ballistic missile (ICBM),** Agni V which has a strike range of 5,000 km, from **Dr. Abdul Kalam Island (formerly the Wheeler Island) in Odisha**.

➢ This is the third successful launch of Agni-V this year (2018) and the fifth launch of the missile in a **canisterised form**.

➢ Agni-V is the most advanced **surface-to-surface indigenously built ballistic missile**.

➢ It is a **three-stage, solid fueled 17-metre tall,** and is capable of carrying a **nuclear warhead** of about 1.5 tonnes.

➢ Agni-V is a **fire and forget missile,** which once fired cannot be stopped, except by an interceptor missile.

➢ It has been developed under the **Integrated Guided Missile Development Programme (IGMDP)**.

Integrated Guided Missile Development Program
➢ It was conceived by **Dr. A.P.J. Abdul Kalam** to enable India attain self-sufficiency in field of missile technology. It was approved by **Government of India in 1983** and **completed in March 2012**.

➢ The **5 missiles (P-A-T-N-A)** developed under this program are:
  ○ Prithvi: Short range **surface to surface** ballistic missile.
  ○ Agni: **Ballistic missiles** with different ranges, i.e. Agni (1, 2, 3, 4, 5)
  ○ Trishul: Short range low level **surface to air missile**.
  ○ Nag: 3rd generation **anti-tank missile**.
  ○ Akash: Medium range **surface to air missile**.

Note:

- The launch operations were carried out and monitored by the **Strategic Forces Command (SFC)**.
  - SFC is a part of **India's Nuclear Command Authority (NCA)** which was **created in 2003** to manage India's nuclear arsenal.
  - NCA is India's nodal authority. It has an **Executive Council (headed by National Security Advisor)** which gives input to the **Political Council (headed by the Prime Minister)**. The Political Council, authorizes a **nuclear attack if need be**.

Canister Based Launch System

- Canister based launch system- serves as a **container for transportation;** a housing during storage aboard a vessel; provides **operational flexibility**.
- A canister launch system can be either **hot launch,** where the missile ignites in the cell, or **cold launch,** where the missile is expelled by gas produced by a gas generator which is not part of the missile itself, and then the missile ignites.
- **Cold launch is safer** than hot launch as the ejection system will eject the missile by itself even if there is a missile failure. In case of **Agni V, it will be a cold launch**.
- In addition to this technology, India is also working to master the **Multiple Independent Reentry Vehicle (MIRV) technology** which is also considered as India's technological solution for Minimum Nuclear Deterrence.
  - The fundamental characteristic of deploying MIRVs is its ability to **deliver several warheads** along **separate trajectories,** which confers it **flexibility of multiple targeting**.

"Chemputer" to Manufacture Drugs

- Scientists at University of Glasgow, UK have developed a new method to produce drug molecules, which uses downloadable blueprints to easily and reliably synthesise organic chemicals via a programmable 'chemputer'.
- This is the first time synthesis of important drug molecules was achieved in an affordable and modular chemical-robot system called a chemputer.
- The chemputer is underpinned by a **new universal and interoperable standard for writing and sharing chemical recipes**.

- Those chemical recipes, run on a computer programme the team calls the 'chempiler', instruct the chemputer how to produce molecules on-demand, more affordably and safely than ever possible before.
- This is a **key step in the digitisation of chemistry** and will allow the universal assembly of complex molecules on demand, democratising the ability to discover and make new molecules using a simple software app and a modular chemputer.
- Chemputer system, could allow medical professionals in remote parts of the world to create life-saving drugs as and when required.

Acute Flaccid Myelitis

- Acute Flaccid Myelitis (AFM), a polio-like disease affecting children.
- **Enteroviruses** (a group of viruses such as poliovirus and enterovirus A71, and West Nile virus) are the main cause of the disease in children.
- The concerns emanate from the US, more than 100 cases of AFM have been confirmed in 2018.
- AFM is characterised by muscle weakness — weak limbs, pain, absent reflexes.

India's First Private Satellite Launched

- United States' private space agency **SpaceX** launched India's first privately built satellite **ExseedSAT 1** along with 63 other satellites from 17 countries.
- The mini communication satellite weighs just a kg and is made up of aluminium alloy.
- The satellite is owned by Mumbai-based startup Exseed Space and will serve the amateur radio communication.

Kaiga Nuclear Power Plant

- Karnataka's Kaiga Nuclear Power Plant has created a world record for the longest uninterrupted operation for 941 days, thereby breaking the earlier record of 940 days by the United Kingdom.
- It is located in the surroundings of the Western Ghats at Kaiga in Uttara Kannada district of Karnataka.
- It is a cluster of four Pressurized Heavy Water Reactors of 220 MW each indigenously developed by the Nuclear Power Corporation of India (NPCIL).

Note:

Nuclear Power Plants & Sites in India

गोरखपुर (हरियाणा)
Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP), Haryana
△ 2 x 700 MW   ⬠ 2 x 700 MW

रावतभाटा (राजस्थान)
Rajasthan Atomic
Power Station (RAPS),
Rawatbhata Rajasthan
● 1 x 100 MW
  1 x 200 MW
  4 x 220 MW
△ 2 x 700 MW

नरोरा (उत्तर प्रदेश)
Narora Atomic Power Station
(NAPS), Uttar Pradesh
● 2 x 220 MW

चुटका (मध्यप्रदेश)
Chutka, MP
Atomic Power Project
(CMAPP)
⬠ 2 x 700 MW

माही-बांसवारा (राजस्थान)
Mahi Banswara, Rajasthan
⬠ 4 x 700 MW

काकरापार (गुजरात)
Kakrapar Atomic Power
Station (KAPS), Gujarat
● 2 x 220 MW
△ 2 x 700 MW

मीठी विर्दी (गुजरात)
Mithi Virdi, Gujarat
■ 6 x 1000 Plus* MW

हरिपुर (पश्चिम बंगाल)
Haripur, West Bengal
■ 6 x 1000 MW

भीमपुर (मध्यप्रदेश)
Bhimpur, Madhya Pradesh
■ 4 x 700 MW

तारापुर (महाराष्ट्र)
Tarapur Atomic Power Station
(TAPS), Maharashtra
● 2 x 160 MW
● 2 x 540 MW

कोवाड़ा (आंध्रप्रदेश)
Kowada, Andhra Pradesh
■ 6 x 1208 MW

जैतापुर (महाराष्ट्र)
Jaitapur Nuclear Power Project (JNPP),
Maharashtra
■ 6 x 1650 MW

अंदमान–निकोबार द्वीप
Andaman and Nicobar Island

कैगा (कर्नाटक)
Kaiga Generating Station
(KGS). Karnataka
● 4 x 220 MW
⬠ 2 x 700 MW

कल्पक्कम (तमिलनाडु)
Madras Atomic Power
Station (MAPS),
Kalpakkam, Tamil Nadu
● 2 x 220 MW

कुडनकुलम (तमिलनाडु)
Kudankulam Nuclear Power
Project (KKNPP), Tamil Nadu
● 2 x 1000 MW
△ 2 x 1000 MW
⬠ 2 x 1000 MW

■■■

Note:

Environment and Ecology

Highlights

Air Pollution in India: One in 8 Deaths due to Air Pollution

A recent study under **India State-Level Disease Burden Initiative** has estimated the exposure to air pollution and its **impact on deaths, disease burden, and life expectancy in every state of India in 2017**.

➢ The study was conducted by the **Indian Council of Medical Research (ICMR), Public Health Foundation of India (PHFI),** and **Institute for Health Metrics and Evaluation (IHME)** in collaboration with the Ministry of Health and Family Welfare.

➢ It has been estimated that **one in every eight deaths in India is attributed to air pollution** which now contributes to more disease burden than tobacco use.

➢ In India, the major **sources of ambient particulate matter pollution** are coal burning for thermal power production, industrial emissions, construction activity and brick kilns, transport vehicles, road dust, residential and commercial biomass burning, waste burning, agricultural stubble burning, and diesel generators.

Key Findings

➢ India has one of the **highest exposure levels to air pollution globally**.

➢ **77% of India's population was exposed to mean PM 2·5 more than 40 µg/m³,** which is the recommended limit set by the National Ambient Air Quality Standards of India.

➢ India accounts for around **26%** of the global premature deaths and disease burden due to air pollution. This is disproportionately high because India only holds 18% of the global population.

➢ Air pollution was **the second largest risk factor contributing** to the disease burden in India after malnutrition in 2016, with an increasing trend in exposure to ambient particulate matter pollution and a decreasing trend in household air pollution.

➢ In addition to respiratory diseases, in India, the disease burden due to air pollution included ischaemic heart disease, stroke, chronic obstructive pulmonary disease and lung cancer, which is commonly associated with smoking.

➢ More than half of the 12.4 lakh deaths in India were of persons younger than 70 and this can be attributed to air pollution in 2017.

➢ The **average life expectancy** in India **would have been 1.7 years higher** if the air pollution level were less than the minimal level causing health loss.

➢ India has **one of the highest annual average ambient particulate matter PM2·5** exposure levels in the world.

➢ In 2017, no state in India had an annual population weighted ambient particulate matter mean PM2·5 less than the WHO recommended level of 10 µg/m³ (PM 2·5 particles are those that are suspended in air and have a diameter lesser than 2.5 microns).

➢ States in north India had some of the highest levels of both ambient particulate matter and household air pollution, especially Bihar, Uttar Pradesh, Rajasthan, and Jharkhand.

➢ The **Disability Adjusted Life Years (DALY)** (a measure of overall disease burden expressed as the number of years lost due to ill-health rate) due to ambient particulate matter pollution, was highest in the case of north Indian states like Uttar Pradesh, Haryana, Delhi, Punjab, and Rajasthan.

Note:

Way Forward

➤ Creating a **robust system** to implement existing clean-air policies, **promoting coordination between the centre and states,** and devising state and district-level pollution control plans are vital to improve air quality.

➤ **Detailed emission inventories** are needed to provide information on the type of pollutant, its proportion, its source and its chemical properties.

➤ **Satellite data can supplement the routine monitoring of air pollution,** as it can be more economical than setting up and operating a number of fixed stations. They could also be used to identify potential air quality hot spots.

➤ The **National Clean Air Programme (NCAP)** which lays down a comprehensive strategy framework for enhanced management of air quality should incorporate the time-bound pollution reduction targets across sectors with fixed accountability and strong legal backing.

Government Initiatives to Combat Air Pollution

➤ Notification of National Ambient Air Quality Standards and launching of National Air Quality Index (AQI);

➤ Sector-specific emission and effluent standards for industries;

➤ Introduction of cleaner gaseous fuels like CNG, LPG, etc and ethanol blending

➤ Leapfrogging from BS-IV to BS-VI standards for vehicles by 1st April 2020;

➤ Banning of burning of biomass;

➤ Promotion of public transport network;

➤ Mandatory Pollution Under Control Certificate;

➤ Installation of on-line continuous (24×7) monitoring devices by 17 highly polluting industrial sectors;

➤ Regulating the bursting of pollution-emitting crackers;

➤ Graded Response Action Plan (GRAP) for Delhi identifying source wise actions for various levels of air pollution, etc.

➤ The government already has regulating norms for the emissions from industries and policy on reducing dependency on fuel based power. Emphasis should also be on pollution caused by solid fuel used for cooking, dust pollution, inefficient municipal waste disposal.

Warmer Winters Ahead as El Niño Conditions Develop

According to the India Meteorological Department (IMD), India is likely to experience a warmer winter for a second consecutive year due to the influence of a brewing El Nino over the Pacific Ocean.

➤ It is likely that a **weak and short duration El Nino** will develop towards February 2019, i.e by the end of winters.

➤ This was stated in **IMD's 'Seasonal Outlook for Temperatures'** which it has been issuing since 2016, for both hot and cold weather seasons. These forecasts are based on predictions from the **Monsoon Mission Coupled Forecasting System (MMCFS)**.

India Meteorological Department (IMD)

➤ IMD was established in **1875**.

➤ It is an agency of the **Ministry of Earth Sciences of the Government of India**.

➤ It is the principal agency responsible for **meteorological observations, weather forecasting and seismology**.

El Nino

➤ El Nino refers to the **unusual warming of the central and east-central equatorial Pacific Ocean** which affects global weather. The warmer waters of the Pacific Ocean cause the winds in various regions to reverse, like the trade winds that come towards India.

➤ This change of wind direction leads to warmer winters and summers and a decrease in rainfall during the monsoon. Most of the time, it also leads to drought.

➤ There is also an **opposite of an El Niño, called La Niña**. This refers to times when waters of the tropical eastern Pacific are colder than normal and trade winds blow more strongly than usual.

➤ **Collectively, El Niño and La Niña are parts of an oscillation in the ocean-atmosphere system called the El Niño-Southern Oscillation, or ENSO cycle.**

What Happens Normally?

➤ Normally, the warmest part of the Pacific Ocean is the region near the equator. Due to the spinning of the earth, the prevailing winds flow from east to west. This **pushes the warm waters westwards, towards Indonesia**.

Note:

- ❍ **During an El Nino event,** the prevailing winds across the Pacific weaken, and sometimes they can even reverse and blow the other way. This allows some of the **warmer waters to move eastwards, away from Indonesia and towards South America**.

- ➢ In the east, around the coast of South America, **cool waters normally well up**. These waters are **rich in nutrients and fish, and provide plenty of food for the Peruvian Fisherman**.

  - ❍ It is interesting to note that the **El Nino was discovered by Peruvian Fisherman** when they noticed that every three to seven years, in the months of December and January, there would be **virtually no fish in the seas,** because of **unusual presence of warm waters**. As it was noticed around **Christmas time, they named this phenomenon El Nino (Spanish for 'the baby boy')**.

Effects of El Nino

- ➢ El Nino affects global weather. It **favours eastern Pacific hurricanes and tropical storms**. Recorded unusual rainfall in Peru, Chile and Ecuador are linked to the climate pattern.

- ➢ El Nino reduces upwelling of cold water, **decreasing the uplift of nutrients from the bottom of the ocean**. This affects marine life and sea birds. The fishing industry is also affected.

- ➢ **Drought** caused by El Nino can be widespread, **affecting southern Africa, India, Southeast Asia, Australia, and the Pacific Islands**. Countries dependent on agriculture are affected.

- ➢ WHO report on the health consequences of El Nino forecasts a **rise in vector-borne diseases,** including those spread by mosquitoes, in Central and South America. Cycles of malaria in India are also linked to El Nino.

- ➢ Over India, the El Nino has usually been the harbinger of drought and the La Nina of excessive rain.

National Monsoon Mission (MMCFS)

Under the National Monsoon Mission initiative, the Indian Institute of Tropical Meteorology (IITM), Pune, Indian National Centre for Ocean Information Services (INCOIS), Hyderabad; and National Centre for Medium Range Weather Forecasting (NCMRWF), NOIDA aim to build a state-of-the-art coupled ocean atmospheric model for:

(a) improved prediction of monsoon rainfall on extended range to seasonal time scale (16 days to one season) and

(b) improved prediction of temperature, rainfall and extreme weather events on short to medium range time scale (up to 15 days) so that forecast skill gets quantitatively improved further for operational services of India Meteorological Department (IMD).

Fee to Promote Conservation of Groundwater

In a bid to promote conservation of groundwater, the Central Ground Water Authority (CGWA) has notified a **Water Conservation Fee (WCF)** that industries will need to pay on groundwater extraction starting from June, 2019.

- ➢ Apart from industrial units, all business establishments and infrastructure projects, such as residential complexes, office buildings, hotels and hospitals, will have to **pay WCF and also require no-objection certificate (NOC)** from the government.

- ➢ However, the **agriculture sector — the largest consumer of groundwater in the country —** will be **exempt** from the fees. **Defence establishments** and **users who don't use electricity** to extract water have also been **granted exemption** from the requirement of obtaining NOCs and paying the WCF.

- ➢ The entire process of grant of NOC will be done **online through a web based** application system of CGWA.

- ➢ The rates would be levied depending on the **location of the groundwater** extraction point and the **amount of water being extracted**.

- ➢ In India, extracted groundwater is **mainly used for irrigation** and accounts for about 90% of the annual groundwater extraction. The rest is drawn for drinking, domestic and industrial uses.

- ➢ India is the **largest user of groundwater in the world,** and accounts for about 25% of the global ground water extraction.

- ➢ The WCF is meant to **discourage the setting up** of new industries in over-exploited and critical areas, and deter large-scale groundwater extraction by industries.

- ➢ It is also expected to **force industries to take steps to use water efficiently,** and discourage the growth of packaged drinking water units.

Note:

➤ Other salient features of the revised guidelines include encouraging the use of **recycled and treated sewage water** by industries, provision of **action against polluting industries,** and **mandatory requirement of installing digital flow meters**.

Seabed 2030: Mapping of Seafloor

The **U.N. – backed project, called Seabed 2030,** is working to pool data to create a map of the **entire ocean floor by 2030**. The map will be freely available to all.

➤ The project was **launched in 2017** and is a collaboration between the Nippon Foundation (Japanese philanthropic organisation) and Gebco (non-profit association of experts).

➤ The advanced **SONAR technology** and advent of new technology such as **underwater drones and robots** is also speeding up the mapping process.

Benefits

➤ **Economic:** More than 90% of the world's trade is carried by sea, making safe navigation a key motivator for mapping.
  ○ It will **promote the "blue economy",** as countries and companies seek to protect or exploit deep-sea resources - from exploring for oil and gas to installing wind farms or laying fibre-optic cables for the Internet.

➤ **Environmental:** It would provide a **better idea of sea levels as ice melts** and warn about **impending tsunamis** that could devastate coastal communities.

Challenges

➤ Even after collaboration at a scientific and technical level to share data, countries may use that knowledge **against one another in geopolitical spats**.

➤ Few countries are **reluctant to give up strategic proprietary data to the Seabed 2030 project,** largely due to national security concerns or in areas with sensitive geopolitical tensions, such as the South China Sea.

Conclusion

➤ The project gains importance in the **context of negotiations over UN Sustainable Development Goal (Goal 14 - to conserve and sustainably use the oceans)** to be completed by 2020.

➤ Moreover, the next phase of the project will also **encourage data donors and crowdsourcing –** not just from exploration vessels, but also from cargo ships, recreational sea-users and fishing boats.

Eco-Sensitive Zone around Protected Regions

➤ The Supreme Court has directed the Ministry of Environment, Forest and Climate Change to **declare 10 km area around 21 national parks and wildlife sanctuaries** across the country as **'eco-sensitive zones'**.

What are Eco-Sensitive Zones (ESZs)?

➤ To **minimise the impact of urbanisation** and other developmental activities areas adjacent to protected areas have been declared as Eco-Sensitive Zones.

➤ Eco-Sensitive Zones or Ecologically Fragile Areas are areas within **10 kms around Protected Areas,** National Parks and Wildlife Sanctuaries.

➤ ESZs are notified by Ministry of Environment, Forest and Climate Change, under **Environment Protection Act 1986**.

➤ The purpose of declaring eco-sensitive zones around protected areas is for creating some kind of a **'Shock Absorber'** for the protected area.

➤ They also act as a **transition zone** buffer from areas of high protection to areas involving lesser protection.

➤ ESZs help in in-situ conservation, which deals with conservation of an **endangered species** in its natural habitat, for example the conservation of the One-horned Rhino of Kaziranga National Park, Assam.

➤ Eco-Sensitive Zones **minimise forest depletion and man-animal conflict**. The protected areas are based on the core and buffer model of management, through which local area communities are also protected and benefitted.

Activities in ESZs

➤ **Prohibited activities:**
  ○ Commercial mining, saw mills, industries causing pollution (air, water, soil, noise etc), establishment of major hydroelectric projects (HEP), commercial use of wood, Tourism activities like hot-air balloons over the National Park, discharge of effluents or any solid waste or production of hazardous substances.

Note:

- ➢ **Regulated activities:**
  - ○ Felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, e.g. adoption of heavy technology, pesticides etc, widening of roads.
- ➢ **Permitted activities:**
  - ○ Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities.

ECO Niwas Samhita 2018

Ministry of Power has launched the **Energy Conservation – New Indian Way for Affordable & Sustainable Homes (ECO Niwas) Samhita 2018,** an Energy Conservation Building Code for Residential Buildings (ECBC-R) to give a further fillip to India's energy conservation efforts.

- ➢ The Code was launched on the occasion of **National Energy Conservation Day 2018** which is celebrated every year on **14th of December by Bureau of Energy Efficiency (BEE)**.

ECO Niwas

- ➢ The code focuses on building envelope, mechanical systems and equipments including heating, ventilating, and air conditioning (HVAC) system, interior and exterior lighting systems, electrical system and renewable energy.
- ➢ It also takes into account the **five climatic zones** (Hot Dry, Warm Humid, Temperate, Composite and Cold) present in India.
- ➢ However, it addresses **only energy efficiency** of buildings. **Water and other aspects** are **not covered** under it.

Benefits

- ➢ It aims to benefit the occupants and the environment by promoting energy efficiency in design and construction of homes, apartments and townships.
- ➢ Implementation of this Code will have potential for energy savings to the tune of **125 Billion Units of electricity** per year by 2030, which is equivalent to about **100 million tonne of CO_2 emission**.
- ➢ The **Energy Conservation Building Code (ECBC) was launched in 2007** by the BEE to set energy efficiency standards for design and construction of buildings as a first step towards promoting energy efficiency in the building sector.

> **Bureau of Energy Efficiency**
> - ➢ BEE is a **statutory body** under **Ministry of Power** which was setup in 2002 under the provisions of the **Energy Conservation Act, 2001**.
> - ➢ It is mandated to implement policy and programmes in the area of **energy efficiency and conservation**.
> - ➢ Other agencies that promote energy efficiency in buildings:
>   - ○ **LEED-India –** Leadership in Energy & Environmental Design (LEED) is an international recognized certification system for the green buildings. The LEED-India Green Building Rating System is an international benchmark for the design, construction and operation of high performance green buildings (provided by IGBC).
>   - ○ **IGBC Ratings –** The Indian Green Building Council (IGBC) is a division of the Confederation of Indian Industry that works closely with the government and aims at sustainably built environment.
>   - ○ **TERI's GRIHA –** The Green Rating for Integrated Habitat Assessment (GRIHA) is a national rating system for green buildings that is adopted while designing and evaluating new buildings.

India Water Impact Summit-2018

- ➢ India Water Impact Summit was jointly organized by the **National Mission for Clean Ganga (NMCG)** and the **Centre for Ganga River Basin Management and Studies (cGanga)** from 5-7 December 2018 in New Delhi.
- ➢ The India Water Impact Summit is an annual event where stakeholders get together to discuss, debate and develop model solutions for some of the biggest water-related problems in the country.
- ➢ This time the discussions were held on **rejuvenation of the Ganga River Basin**.

> **National Mission for Clean Ganga**
> - ➢ NMCG was **registered as a society in 2011** under the **Societies Registration Act, 1860**.

➢ It acted as **implementation arm of National Ganga River Basin Authority (NGRBA)** which was constituted under the provisions of the Environment (Protection) Act, 1986.

➢ NGRBA was dissolved in 2016, consequent to constitution of **National Council for Rejuvenation, Protection and Management of River Ganga** (referred as National Ganga Council which comes under the chairmanship of Prime Minister of India).

BioBlitz : Counting Species through Citizen Science

➢ People, from across the India participated in the event BioBlitz conducted by Bengaluru's **National Centre for Biological Sciences**.

➢ Participants observed individual trees in their neighbourhoods and campuses, and contributed information including the tree species, its location, proportions of flowers, fruits and leaves.

➢ This will generate a baseline for tree **phenology (periodic events such as fruiting and flowering) across India** over the years, helping scientists toanalyse if **climate change is altering tree phenology in future**.

BioBlitz

➢ A bioblitz is an event that focuses on **finding and identifying** as many species as possible in a specific area **over a short period of time**.

➢ It is also known as a **biological inventory or biological census** whose primary goal is to get an overall count of the plants, animals, fungi, and other organisms found in a place.

➢ It **differs from a scientific inventory** in a number of ways. Scientific inventories are usually limited to biologists, geographers, and other scientists. A bioblitz brings together volunteer scientists, as well as families, students, teachers, and other members of the community.

➢ While a scientific survey often focuses on unique or isolated areas, bioblitzes focus on areas that are connected to residential, urban, and industrial areas.

➢ These differences make a bioblitz a unique biological survey that encourages a relationship between the natural and human communities of a given area. It aims to promote and improve local natural spaces by empowering citizens to better understand and protect biodiversity.

Note:

Art & Culture

Highlights

- Brick Temple at Bhitargaon *(35)*
- Hornbill Festival-2018 *(36)*
- Vrischikolsavam *(36)*
- Saharia Tribe *(36)*

Brick Temple at Bhitargaon

The temple at Bhitargaon in Kanpur (Uttar Pradesh) is one of the earliest surviving **brick temples** of India.

- ➢ It was built in the 5th century A.D. during the **Gupta Empire**.
- ➢ It is the **oldest remaining terracotta Hindu shrine with a roof and a high Shikhara** (spire) which paved the way for elaborate **Nagara style of temple architecture in North India**.

Brief History of Temple Architecture

- ➢ There is **no evidence of the existence of temple architecture** during the **Vedic period**.
- ➢ Over generations, worshipping was systematised and paved the way for the evolution of temple structures.
- ➢ **Rock-cut architecture began to develop from the 3rd century BCE.** Though the earliest rock-cut architecture is from the Mauryan dynasty, the Ajanta caves which belong to post Mauryan period are among the earliest Buddhist rock-cut temples.
- ➢ As man progressed and learnt new techniques, rock-cut temples gave way to stone temples and as stone was not easily available everywhere, it gave way to brick temples.
- ➢ In the Gangetic plains, which had alluvial soil and paucity of stones and rocks, many brick structures came up.
- ➢ Though rock-cut and stone temples withstood the vagaries of time, brick temples could not survive. That is what makes the brick temple of Bhitargaon so special.

Architecture of Bhitargaon Temple

- ➢ The entrance into the sanctum shows one of the **first uses of a semi-circular doorway**.

- ➢ **Alexander Cunningham** (**First Director General** of the Archaeological Survey of India, established in 1861) called this as the 'Hindu arch' which was peculiar to India.
- ➢ The temple has a **tall pyramidical spire (shikhara)** above the inner sanctum (garbha griha). This shikhara became the standard feature of the Nagara temple architecture of India.
- ➢ The walls of the temple are decorated with **terracotta sculptures of Gods and Goddesses** like Shiva, Parvati, Ganesha, Vishnu etc. on panels separated by bold ornamental pilasters (rectangular column that projects slightly beyond the wall).
- ➢ According to Cunningham, because of the Varaha incarnation at the back of the temple, it was probably a Vishnu temple.

Nagara, Dravida and Vesara Temples

Temple architecture evolved differently in different regions, such as the distinct features of Odisha, Kashmir and Bengal temples, but it can be generally classified under three categories- Nagara (North), Dravida (South) and Vesara styles.

- ➢ The shikhara tower in **Nagara temples has a sloping curve as they rise** and are topped by an **amalaka** (a large fluted disk) and also a small spherical pot known as the **kalash**.

Kandariya Mahadeva Temple (Nagara)   Brihadishwara Temple (Dravida)   Durga Temple (Vesara)

- ➢ The Nagara style of temples were generally built on **upraised platforms**.
- ➢ Kandariya Mahadeva temple at Khajuraho in Madhya Pradesh is one of the best expressions of Nagara temple architecture.

Note:

- ➢ In contrast, **Dravida towers** (known separately as Vimana) are in the form of a **stepped pyramid that rises up linearly rather than curved**.
- ➢ There is only one vimana in the Dravidian architecture on top of the main temple. The subsidiary shrines do not have vimanas, unlikepresence of shikhars in subsidiary shrines of Nagara architecture.
- ➢ The presence of **water tank inside the temple** enclosure is a **unique feature of the Dravidian style**.
- ➢ Southern Indian temples are typically enclosed within a walled courtyard with a gate **(gopuram)** which over time had become even more massive and ornate than the temple itself.
- ➢ The 11th century A.D. Brihadishwara Temple complex (built by Rajaraja I of Imperial Cholas) at Tanjavur is an example of Dravida temple which incorporates all of these features.
- ➢ Vesare style of temple architecture flourished under the Chalukyan rulers ruling large parts of southern and central India between the 6th and 12th C.
- ➢ Vesara style had **combined features of both Nagara school and Dravidian school** and resulted in a hybridised style.
- ➢ Durga temple at Aihole, Karnataka is a prominent example of Vesara style temple.

Hornbill Festival- 2018

- ➢ Recently Union Home Minister has inaugurated the 10-day long annual Hornbill festival.
- ➢ At the **beginning of December each year,** Nagaland hosts the Hornbill Festival to **celebrate its diverse community and culture**.
- ➢ The event has been taking place every year since 2000, and takes place from December 1-10, coinciding with the **Nagaland Statehood Day on December 1**.

- ➢ The festival has tribes and sub-tribes from different regions of Nagaland come to **Kisama (close to state capital Kohima)** and display best of their community—from dance and song to literature and food.
- ➢ The **name of the festival is misleading** because the **hornbill isn't Nagaland's state bird**. The state bird of Nagaland is the lesser-known and endangered bird – **Blyth's Tragopan**.

Note:

Major tribes of Nagaland include – Ao, Angami, Chang, Konyak, Lotha, Sumi, Chakhesang, Khiamniungan, Kachari, Phom, Rengma, Sangtam, Yimchungrü, Kuki, Zeliang and Pochury.

Vrischikolsavam

- ➢ Vrischikolsavam is an eight-day annual festival of Sree Poornathrayeesa temple, Tripunithura situated in **Kochi (Kerala)**.
- ➢ Sree Poornathrayeesa Temple is the **only temple in South India where an odd pose of Lord Vishnu can be seen, sitting under the shade of five royal hoods of the divine serpent, Ananthan,** whose folded body itself acts as the throne for the God.
- ➢ The festival hosts an array of traditional art forms and cultural programmes such as kathakali (one of the eight classical dances of India), ottanthullal (dance and poetic performance form of Kerala), thayambaka (renowned orchestra of Kerala), music concerts and dance.

Saharia Tribe

- ➢ The Saharia Tribe, one of the most backward tribes in the country, resides in **Rajasthan and Madhya Pradesh**.
- ➢ They **worship many Hindu God and Goddesses** and also celebrate various Hindu festivals.
- ➢ They have been classified as a **Particularly Vulnerable Tribal Group (PVTG)** because of low development indices.

■■■

Note:

Social Issues

Highlights

- World AIDS Day *(37)*
- International Human Rights Day *(39)*
- Streamlining of National Pension System *(40)*
- Status on Implementation of the Rights of Persons with Disabilities Act, 2016 *(41)*

- Partner's Forum Inaugurated in New Delhi *(42)*
- Center Refuses to Recognize Lingayat as Separate Religion *(43)*

World AIDS Day

December 1, 2018 marks the 30th anniversary of World AIDS Day.

➤ The theme of 2018 World AIDS Day has been **"Know your status"**.

➤ World AIDS Day takes place on **December 1st, every year**. Initiated by **World Health Organization (WHO)** in 1988, World AIDS Day was the first ever global health day.

➤ World Health Day is an opportunity for people worldwide to unite in the fight against HIV, to show support for people living with HIV, and to commemorate those who have died from an AIDS-related illness.

➤ WHO advocacy and communication for World AIDS Day 2018 will aim to achieve the following objectives

  ○ Urge people to know their HIV infection status through testing, and to access HIV prevention, treatment and care services.

  ○ Urge policy-makers to promote a "health for all" agenda for HIV and related health services, such as tuberculosis (TB), hepatitis and noncommunicable diseases.

National AIDS Control Program

➤ The National AIDS Control Organization, Ministry of Health and Family Welfare launched the first phase of **National AIDS Control Programme in 1992**.

➤ Over time, the focus has shifted from raising awareness to behavior change, from a national response to a more decentralized response and to increasing involvement of NGOs and networks of Person Living with HIV/AIDS (PLHIV).

➤ Subsequently, second, third and fourth phases have been launched in 1999, 2007 and 2014 respectively with better implementation and improved strategy.

HIV/AIDS Act, 2017

➤ The Ministry of Health and Family Welfare enforced the Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act, 2017 (HIV/AIDS Act, 2017) from 10th September 10, 2018.

➤ **HIV and AIDS (Prevention and Control) Act, 2017:**

  ○ The central and state governments shall take measures to:

    • prevent the spread of HIV or AIDS.

    • provide antiretroviral therapy (ART) for persons with HIV or AIDS.

    • facilitate HIV affected person access to welfare schemes especially for women and children.

  ○ The Act lists various grounds on which discrimination against HIV positive persons and those living with them is prohibited. It prohibits denial, termination, discontinuation or unfair treatment with regard to employment, educational establishments, health care services, residing or renting property etc.

  ○ No HIV test, medical treatment, or research will be conducted on a person without his informed consent.

  ○ A person between the age of 12 to 18 years who has sufficient maturity in understanding and managing the affairs of his HIV or AIDS-affected family shall be competent to act as a guardian of another sibling below 18 years of age.

Note:

- Cases relating to HIV positive persons shall be disposed of by the court on a priority basis.
- Violation of the Act by the publication of information about people living with HIV or advocating hatred against them will attract imprisonment ranging from three months to two years or a maximum fine of Rs. 1 lakh.

India's HIV Burden

➢ With an **HIV prevalence of 0.26% in the adult population,** India has an estimated 2.1 million People living with HIV (2015). **India has third largest number of cases in the world** after South Africa and Nigeria.

➢ Bio-behavioural surveys confirm that HIV prevalence is high or 'concentrated' among 'key populations' (KPs) who have unprotected sexual contacts with multiple partners or who engage in injecting drug use.

➢ These populations include **female sex workers (FSW), men who have sex with men (MSM), hijra/ transgender (TG), people who inject drugs (PWID), long-distance truck drivers and migrants**.

National Strategic Plan for HIV/AIDS and Sexually Transmitted Infection (STI) 2017 – 2024

➢ The National AIDS Control Organization (NACO) has now revised the national approach to reach **'the last mile'** – in order to ensure a more effective, sustained and comprehensive coverage of AIDS related services.

➢ This approach is being implemented by the NACO through a seven-year National Strategic Plan on HIV/ AIDS and STI, 2017-24.

➢ By 2020, the focus of the national programme will be on achieving the following fast track targets:

- **75% reduction** in new HIV infections.
- **90-90-90:** 90% of those who are HIV positive in the country know their status, 90% of those who know their status are on treatment and 90% of those who are on treatment experience effective viral load suppression.
- **Elimination of mother-to-child transmission** of HIV and Syphilis.
- **Elimination of stigma** and discrimination.

➢ By 2024, the further achievements envisaged are:

- 80% reduction in new HIV infections

- Ensuring that 95% of those who are HIV positive in the country know their status,95% of those who know their status are on treatment and 95% of those who are on treatment experience effective viral load suppression

The HIV

➢ The Human Immunodeficiency Virus (HIV) **targets the immune system** and results in increased susceptibility to a wide range of infections, cancers and other diseases that people with healthy immune systems can fight off.

➢ As the virus destroys and impairs the function of immune cells, infected individuals gradually become immunodeficient.

➢ The **most advanced stage of HIV infection is Acquired Immunodeficiency Syndrome (AIDS),** which can take from 2 to 15 years to develop depending on the individual.

➢ HIV infection is diagnosed through **rapid diagnostic tests (RDTs),** which detect the presence or absence of HIV antibodies.

➢ There is **no cure for HIV infection**. However, effective **antiretroviral (ARV) drugs** can control the virus and help prevent transmission so that people with HIV, and those at substantial risk, can enjoy healthy, long and productive lives.

➢ ARVs are highly effective in **suppressing HIV virus** and slowing the progress of HIV disease.

The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)

➢ The **Global Fund is a partnership organization** designed to accelerate the end of AIDS, tuberculosis and malaria as epidemics.

➢ Founded in 2002, the Global Fund is a **partnership between governments, civil society, the private sector and people affected by the diseases**.

➢ The Global Fund raises and invests nearly US$4 billion a year to support programs run by local experts in countries and communities.

➢ GFATM contributes a substantial portion of the external development assistance to the health sector.

Project Sunrise

➢ A new initiative called 'Project Sunrise' was launched by Ministry of Health and Family Welfare in 2016, to tackle the **rising HIV prevalence in north-eastern states in India,** especially among people injecting drugs

Note:

The Red Ribbon

➢ The red ribbon is the universal symbol of awareness and support for people living with HIV.

➢ Wearing a ribbon is a great way to raise awareness on and during the run up to World AIDS Day.

International Human Rights Day

On December 10, the National Human Rights Commission (NHRC) observed Human Rights Day. The day is **celebrated every year to commemorate the Universal Declaration of Human Rights (UDHR),** which was adopted and proclaimed by the United Nations General Assembly (UNGA) in 1948 as the shared standard yardstick to protect human rights across the globe. 2018 marks the 70th anniversary of adoption of UDHR.

➢ The five-yearly "United Nations Prize in the field of Human Rights", constituted in 1966, is also awarded on this day.

Universal Declaration of Human Rights

➢ Proclaimed under UNGA resolution 217 A in Paris, the declaration sets out, for the first time that fundamental human rights to be universally protected.

➢ It states that 'all human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.'

➢ It entitles everyone to all the rights and freedoms and **prohibits slavery and slave trade** in all forms.

➢ Other rights recognized under the declaration are right to a nationality, right against arbitrary arrest, detention or exile, right to seek asylum from persecution, right to freedom of movement and residence, etc.

➢ The Universal Declaration is not a treaty, so it does not directly create legal obligations for countries.

➢ Human rights are at the **heart of the Sustainable Development Goals (SDGs),** as in the absence of human dignity, sustainable development cannot be achieved. Human Rights are driven by progress on all SDGs, and the SDGs are driven by advancements on human rights.

National Human Rights Commission (NHRC)

➢ The NHRC was established in 1993 under the statute of **Protection of Human Rights Act, 1993**.

➢ **The Commission consists of:**

○ A Chairperson who has been a Chief Justice of the Supreme Court.

○ One Member who is or has been, a Judge of the Supreme Court.

○ One Member who is, or has been, the Chief Justice of a High Court.

○ Two Members to be appointed from amongst persons having knowledge of, or practical experience in, matters relating to human rights.

○ The Chairpersons of four National Commissions (Scheduled Castes, Scheduled Tribes, Women and Minorities) serve as ex officio members.

➢ As per the act, NHRC is a recommendatory body vested with the **powers of a civil court** trying a suit under the Code of Civil Procedure, 1908.

➢ Though it is empowered to take suo moto cognizance of the human rights violation cases, it cannot entertain cases that are older than 1 year.

➢ Apart from looking into the complaints of the human rights violations, it reviews safeguards provided under the Constitution or any Law, makes recommendations for effective implementation of International Conventions/ Covenants, undertakes research and organises seminars and discussion programmes on human rights issues.

Protection of Human Rights (Amendment) Bill, 2018

➢ Recently, the Protection of Human Rights (Amendment) Bill, 2018 was introduced in Lok Sabha which seeks to amend the Protection of Human Rights Act, 1993. The salient features of 2018 amendment Bill are:

○ Not only a person who has been Chief Justice of India, but also a Judge of the Supreme Court can be the chairperson of the NHRC. This will **enlarge the scope of eligibility and scope of selection of Chairperson,** National Human Rights Commission.

○ Similarly, the Chief Justice or Judge of a High Court can be the chairperson of a SHRC (State Human Rights Commission).

○ Three members to be appointed, of which **at least one will be a woman**. It also seeks to include the **chairpersons of the National Commission for Backward Classes, the National Commission for the Protection of Child Rights, and the Chief**

Commissioner for Persons with Disabilities as members of the NHRC.

○ The Bill **reduces the term of office to three years** (from five years) or till the age of seventy years, whichever is earlier (for both NHRC & SHRC).

○ The Act provides for a Secretary-General of the NHRC and a Secretary of a SHRC, who exercise powers as may be delegated to them. The Bill allows the Secretary-General and Secretary to exercise all administrative and financial powers (except judicial functions), subject to the respective chairperson's control.

➢ The Amendment will **strengthen the Human Rights Institutions** of India further for effective discharge of their mandates, roles and responsibilities.

➢ Moreover, the amendment will make National Human Rights Commission (NHRC) and State Human Rights Commission (SHRC) more compliant with agreed global standards and benchmarks concerning its autonomy, independence, pluralism and wide-ranging functions in order to effectively protect and promote human rights.

Streamlining of National Pension System

In a bid to streamline the National Pension System (NPS) and make it more attractive, the Union Cabinet has approved changes in the scheme to benefit around 18 lakh Central government employees covered under NPS.

➢ The Seventh Pay Commission in the year 2015 recommended for setting up of a Committee of Secretaries to address certain concerns regarding NPS.

➢ Accordingly, based on the recommendations of the Committee of Secretaries draft Cabinet Note was placed before the Cabinet for its approval.

The Approved Changes are:

➢ **Enhancement of the mandatory contribution by the Central Government** for its employees covered under NPS Tier-I from the existing 10% to 14%.

➢ Providing **freedom of choice for selection of Pension Funds** and pattern of investment to central government employees.

➢ **Payment of compensation** for non-deposit or delayed deposit of NPS contributions during 2004-2012.

➢ **Tax exemption limit for lump sum withdrawal on exit has been enhanced to 60%.** With this, the entire withdrawal will now be exempted from income tax. (At present, 40% of the total accumulated corpus utilized for purchase of annuity is already tax exempted. Out of 60% of the accumulated corpus withdrawn by the NPS subscriber at the time of retirement, 40% is tax exempt and balance 20% is taxable).

➢ Contribution by the Government employees under Tier-II of NPS will now be covered under Section 80C for deduction up to Rs. 1.50 lakh for the purpose of income tax at par with the other schemes such as General Provident Fund, Contributory Provident Fund, Employees Provident Fund and Public Provident Fund provided that there is a lock-in period of 3 years.

Note:

NPS provides two types of accounts - Tier I and Tier II. Tier I is a non-withdrawable account till retirement and is meant for savings for retirement while in Tier II accounts, the subscriber is free to withdraw savings whenever she wishes.

Impact

➢ Increase in the eventual accumulated corpus of all central government employees covered under NPS.

➢ Greater pension payouts after retirement without any additional burden on the employee.

➢ Freedom of choice for selection of Pension Funds and investment pattern to central government employees.

➢ The impact on the exchequer on this account is estimated to be to the tune of around Rs. 2840 crores for the financial year 2019-20, and will be in the nature of a recurring expenditure.

National Pension System

➢ The Central Government introduced the National Pension System (NPS) in January, 2004 (except for armed forces).

➢ NPS is being implemented and regulated by Pension Fund Regulatory and Development Authority in the country.

➢ National Pension System Trust (NPST) established by PFRDA is the registered owner of all assets under NPS.

➢ NPS, which was initially introduced for government employees, was thrown open to all citizens of the country including unorganised sector workers from May, 2009.

Note:

- Any individual citizen of India (both resident and Non-resident) in the age group of 18-65 years (as on the date of submission of NPS application) can join NPS.
- However, OCI (Overseas Citizen of India) and PIO (Person of Indian Origin) card holders and Hindu Undivided Families (HUFs) are not eligible for opening of NPS account.

PFRDA

- The Pension Fund Regulatory & Development Authority Act was passed on September 19, 2013.
- Its vision is to be a model regulator for promotion and development of an organized pension system to serve the old age income needs of people on a sustainable basis.
- Along with NPS, it also regulates other pension schemes subscribed by employees of public and private sector of India.

Status on Implementation of the Rights of Persons with Disabilities Act, 2016

A study conducted by the Disability Rights India Foundation (DRIF) on the implementation of the Rights of Persons with Disabilities (RPWD) Act, across 24 States, has revealed that **more than half have not notified the State rules**.

- Only ten states including Bihar, Chandigarh, Manipur, Meghalaya, Odisha, Telangana, Tamil Nadu and West Bengal have notified the rules.

Report card

A look at the status of implementation of the Rights of Persons with Disabilities (RWPD) Act, 2016, two years after it came into force:

Number of States and UTs that have responded: 24 (66.7%)

States that have not notified State rules: 58.3%
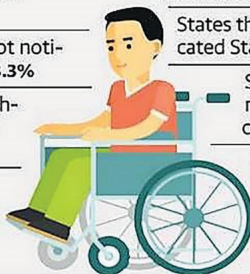
States and UTs without State Advisory Boards: 50%

States and UTs without State Commissioners for Persons with Disabilities: 37.5%

States that have not allocated State funds: 79.2%

States without notified special courts: 58.3%

States without Special Public Prosecutors: 87.5%

- Recently, **Rajasthan was recognised as the best State in implementation of Accessible India Campaign** on the occasion of **International Day of Persons with Disabilities on December 3, 2018**.
- **Disability and United Nation**
  - The **theme** for 2018 International Day of Persons with Disabilities was – **"Empowering persons with disabilities and ensuring inclusiveness and equality"** – declared by the United Nations (UN).
  - It focuses on the **2030 Agenda for Sustainable Development and pledges to "leave no one behind"**.
- **Disability and Indian Constitution**
  - **Article 41 of the Directive Principles of State Policy (DPSP)** states that State shall make effective provision for securing right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, within the limits of its economic capacity and development.
  - The subject of 'relief of the disabled and unemployable' is specified in **state list of the Seventh schedule of the constitution**.

Accessible India Campaign (AIC)

- Accessible India Campaign (AIC) is the nationwide flagship campaign of the **Department of Empowerment of Persons with Disabilities (DEPwD), Ministry of Social Justice and Empowerment** launched on International Day of Persons with Disabilities on 3rd December, 2015.
- The aim of the Campaign is to make a barrier free and conducive environment for Divyangjans all over the country.

Rights of Persons with Disabilities Act 2016

- Disability has been defined based on an **evolving and dynamic concept**.
- The types of disabilities have been **increased from 7 to 21**. The Act added mental illness, autism, spectrum disorder, cerebral palsy, muscular dystrophy, chronic neurological conditions, speech and language disability, thalassemia, hemophilia, sickle cell disease, multiple disabilities including deaf blindness, acid attack victims and Parkinson's disease which were largely ignored in earlier act.
  - In addition, the **Government has been authorized to notify** any other category of specified disability.

Note:

➢ It increases the quantum of reservation for people suffering from disabilities from **3% to 4% in government jobs** and from **3% to 5% in higher education institutes**.

➢ Every child with benchmark disability between the age group of **6 and 18 years shall have the right to free education**. Government funded educational institutions as well as the government recognized institutions will have to provide inclusive education.

➢ Stress has been given to ensure accessibility in public buildings in a prescribed time frame along with Accessible India Campaign.

➢ The Chief Commissioner for Persons with Disabilities and the State Commissioners will act as regulatory bodies and Grievance Redressal agencies, monitoring implementation of the Act.

➢ Separate National and State Funds shall be created to provide financial support to the persons with disabilities.

United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)

➢ The Convention was adopted by the **General Assembly in December 2006 and it came into force in May 2008**.

➢ The convention seeks to engage member countries in developing and carrying out policies, laws and administrative measures for securing the rights recognized in the Convention and abolish laws, regulations, customs and practices that constitute discrimination.

➢ It requires countries to identify and eliminate obstacles and barriers and ensure that persons with disabilities can access their environment, transportation, public facilities and services, and information and communications technologies.

➢ It asks member countries to recognize the right to an adequate standard of living and social protection which includes public housing, services and assistance for disability-related needs, as well as assistance with disability-related expenses in case of poverty.

Partner's Forum Inaugurated in New Delhi

The Prime Minister inaugurated the fourth Partners' Forum at New Delhi.

➢ Partners' Forum is short for the meeting of the **Partnership for Maternal, Newborn & Child Health** (The Partnership, PMNCH).

PARTNERS' FORUM 2018 NEW DELHI 12–13 DECEMBER

WHAT?
The 2018 Partners' Forum – a unique global conversation on women's, children's and adolescents' health

WHY?
To share experiences and inspire action for the health and well-being of every woman, child and adolescent

WHO?
PMNCH's 1,000+ member organizations, Heads of State, Ministers, global champions, media, young people

Ministry of Health & Family Welfare Government of India — WE SUPPORT EVERY WOMAN EVERY CHILD — The Partnership for Maternal, Newborn & Child Health

➢ The 2018 Forum was hosted by the Government of India and focused on improving multisectoral action for results, sharing country solutions and capturing the best practices and knowledge within and among the health sector and related sectors.

➢ It also emphasized the importance of people-centered accountability bringing forward the voices and lived realities of women, children, and adolescents through innovative programming and creative projects.

➢ Specific goals of the Partners' Forum include:

  ○ **Greater political momentum,** sustaining attention to the "Survive-Thrive-Transform" agenda of the Global Strategy, and its contribution to driving the Universal Health Coverage (UHC) and the 2030 Sustainable Development Goals (SDG).

  ○ **Knowledge exchange,** through sharing of lessons learned and best practices to innovate and improve implementation strategies for results.

  ○ **Improved cross-sectoral collaboration** through knowledge exchange and joint advocacy strategies.

➢ This is the second time India is hosting the Partners' Forum. The previous conferences were held in Johannesburg, South Africa (2014), New Delhi, India (2010) and Dar es Salaam, Tanzania (2007).

➢ The Forum I presented the findings of the 12 Success Factors case studies that showcase how countries are collaborating across sectors to improve women's, children's and adolescents' health.

➢ The Partners' Forum showcased learnings from across six regions: Africa, Eastern Mediterranean, Europe,

Note:

Americas, South East Asia, and Western Pacific on six thematic areas:

- **Early Childhood Development** (Germany & Chile)
- **Adolescent Health and Well-Being** (USA & Indonesia)
- **Quality, Equity and Dignity (QED) in Services** (India & Cambodia): From India, Intensified Mission Indradhanush has been selected as one of the case studies under QED theme.
- **Sexual and Reproductive Health** (Malawi & Malaysia)
- **Empowerment of Women, Girls and Communities** (South Africa & Guatemala)
- **Humanitarian and Fragile Settings** (Sierra Leone & Afghanistan)

Partner's Forum

➤ Partners' Forum is a global health partnership launched in September 2005 to accelerate efforts to reduce child and maternal mortality, improve adolescent, child, newborn and maternal health.

➤ The Partnership is governed by a Board and administered by a Secretariat hosted at the World Health Organization in Geneva, Switzerland.

➤ PMNCH mission is to support the global health community to work successfully towards achieving the Sustainable Development Goals (SDGs), particularly the health-related SDGs as articulated in the Strategy for Women's Children's and Adolescents' Health in support of 'Every Woman Every Child' (EWEC) movement.

'Every Woman Every Child' (EWEC) movement

➤ It was launched by the United Nations during the United Nations Millennium Development Goals Summit in September 2010.

➤ Every Woman Every Child is an unprecedented global movement that mobilizes and intensifies international and national action by governments, the private sector, and civil society to address the major health challenges facing women, children, and adolescents around the world.

Mission Indradhanush

➤ To give maximum protection to the children against Vaccine Preventable Diseases (VPDs). The government has launched 'Mission Indradhanush' in December 2014 to fully immunize more than 89 lakh children who are either unvaccinated or partially vaccinated under Universal Immunisation Programme (UIP) launched in 1985.

➤ The mission was launched in 2014 and targets children under 2 years of age and pregnant women for immunization. It aims to achieve full immunisation coverage by 2020.

➤ Mission Indradhanush provides vaccination against 7 diseases diphtheria, whooping cough, tetanus, polio, tuberculosis, measles and hepatitis B.

➤ Subsequently, vaccines for Japanese Encephelits and Haemophilus influenza type B are also being provided in selected districts. In 2016, four new additions viz Rubella, Japanese Incephelitis, Injectible Polio Vaccine Bivalent and Rotavirus were added.

Intensified Mission Indradhanush

➤ The Intensified Mission Indradhanush (IMI) has been launched by government of India in 2017 to reach each and every child under two years of age and all those pregnant women who have been left uncovered under the routine immunisation programme.

➤ The target under IMI is to increase the full immunization coverage to 90% by December 2018.

➤ Under Intensified Mission Indradhanush, greater focus was given on urban areas which was one of the gaps of Mission Indradhanush.

Center Refuses to Recognize Lingayat as Separate Religion

The Central Government has rejected the Karnataka government's proposal seeking legal recognition for Lingayats as a distinct religion.

➤ In March 2018, the Karnataka government accepted suggestions of **Nagamohan committee** and granted minority status to Lingayats. The proposal was then sent to the Centre for the final approval.

➤ Central Government has rejected the proposal on two grounds:

- Lingayat has always been **classified under Hindus ever since the first official census in India in 1871**.

Note:

○ If Lingayat/Veerashaiva will be given the status of a separate religion, **all the members of the Scheduled Caste (SC) professing the said religion would lose their status as SC**.

➢ In the Hindu Marriage Act, 1955 and the Hindu Succession Act, 1956, Lingayats, Buddhists, Jains, and Sikhs are included among Hindus, but Buddhists, Sikhs, and Jains have been identified by state and central governments as minority religions in 1993, 1963 and 2014 respectively except the Lingayats.

Lingayats

➢ The term **Lingayat denotes a person who wears a personal linga,** an iconic form of god Shiva, on the body which is received during the initiation ceremony.

➢ Lingayats are the followers of the 12th century social reformer-philosopher poet, Basaveshwara.

➢ Basaveshwara was against the caste system and Vedic rituals.

➢ The **Lingayats are strict monotheists**. They enjoin the worship of only one God, namely, Linga (Shiva).

➢ The word 'Linga' does not mean Linga established in temples, but universal consciousness qualified by the universal energy (Shakti).

➢ Lingayats had been classified as a Hindu subcaste called **"Veerashaiva Lingayats"** and they are considered to be Shaivites.

Separate Religion for Lingayats

➢ Lingayats had distanced itself from Hindu Veerashaivas because the latter followed the Vedas and supported the caste system, to which Basaveshwara was against.

➢ Veerashaivas are the followers of the five peethas (religious centers), called Pancha Peethas. These peethas are set up on similar lines to the four peethas set up by Adi Shankara.

Basaveshwara

➢ Basaveshwara was a **12th century spiritual master in Karnataka**.

➢ Popularly known as Basavanna, he propagated moral, ethical and spiritual values for a peaceful and purposeful life.

➢ **He formed a new spiritual institution which was based on democratic principles** to spread universal love and brotherhood. Anyone, irrespective of caste, could become a member as long as they were pious and of good character.

➢ Basavanna's mission for the formation of a new society through **Anubhava Mantapa** was based on certain noble principles:

○ There is only one God.

○ Complete surrender to God in devotion.

○ Compassion is the root of all religions. Treat all living beings with kindness and live for the welfare of all.

■■■

Note:

Miscellaneous

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Dr. B.R. Ambedkar's 63rd Mahaparinirvan Diwas

➢ Mahaparinirvan Diwas is observed every year on **December, 6** to commemorate **death anniversary of Dr. B.R. Ambedkar**.

➢ Known as the **Father of the Indian Constitution,** Dr. Ambedkar was a jurist, economist, politician and a social reformer who campaigned against social discrimination of Dalits, women and labourers.

➢ **Chaitya Bhoomi** is a memorial to B.R. Ambedkar located in Dadar, Mumbai.

Climate Risk Index (CRI): Germanwatch

➢ The Global Climate Risk Index 2019 analyses the extent to which countries and regions have been affected by impacts of weather-related loss events (storms, floods, heat waves etc.).

➢ The report **places India 14th among countries** most affected by **extreme weather events** in the last 20 years.

➢ India accounted for the **second highest fatalities** in the world. Puerto Rico, Honduras and Myanmar rank highest, i.e. they are the worst hit countries by extreme weather events.

Ideate for India – Creative Solutions using Technology

➢ The **National e-Governance Division** of **Ministry of Electronics and Information Technology (MeitY)** in collaboration with Intel India has launched a National Challenge for Youths, **"Ideate for India - Creative Solutions using Technology"**.

➢ It is open to students of classes **6 - 12 all across the country - all 29 States and 7 Union Territories** and aims to reach out to at least 1 million youth over the next 3 months.

➢ There are **11 core theme areas** on which students can share their ideas- healthcare services, education services, digital services, environment, women safety, traffic, infrastructure, agriculture, social welfare, disability and tourism.

Global Hackathon on Artificial Intelligence

➢ **NITI Aayog** in partnership with **Perlin, a Singapore-based Artificial Intelligence (AI) startup** has launched the **'AI 4 All Global Hackathon'**.

➢ Hackathon invited developers, students, startups and companies to develop **AI applications to make significant positive social and economic impact for India**.

Note:

- With the vision to further expand the idea of **'Artificial Intelligence, AI for All'** articulated in the National AI Strategy, NITI Aayog organises hackathons to source sustainable, innovative and technologically-enabled solutions to address various challenges in the development space.

Rythu Bandhu Scheme

- Rythu Bandhu scheme also known as **Agriculture Investment Support Scheme,** is a welfare program to support farmer's investment for two crops a year by the Government of **Telangana**.

- The scheme seeks to provide a grant of **Rs. 4,000 per acre per farmer each season** for the purchase of inputs like seeds, fertilizers, pesticide etc.

- The scheme is aimed at relieving the farmers from debt burden and not allowing them to fall into the debt trap.

Indian Navy Day 2018

- Indian maritime forces celebrated Navy Day on **4 December**.

- The day marks the **exemplary role** of the naval branch of the **Indian Armed Forces in the 1971 India-Pakistan War**.

Qatar Quits OPEC

Qatar has decided to withdraw its membership from Organization of Petroleum Exporting Countries (OPEC) in order to 'focus efforts' on gas production.

OPEC
- The Organization of the Petroleum Exporting Countries (OPEC) is a permanent, **intergovernmental Organization**.
- It was created at the **Baghdad Conference in 1960,** by **Iran, Iraq, Kuwait, Saudi Arabia** and **Venezuela**.
- OPEC is a cartel that aims to manage the supply of oil in an effort to set the price of oil in the world market.
- These countries were later joined by Qatar (1961), Indonesia (1962), Libya (1962), the United Arab Emirates (1967), Algeria (1969), Nigeria (1971), Ecuador (1973), Gabon (1975), Angola (2007), Equatorial Guinea (2017) and Congo (2018).

- Ecuador suspended its membership in December 1992 but rejoined in October 2007.
- Indonesia suspended its membership in January 2009, joined again in January 2016, and suspended once again in November 2016.
- Gabon terminated its membership in January 1995. But joined again in July 2016.
- OPEC has its **headquarter** in **Vienna, Austria**.

Boe Declaration

- Pacific countries vulnerable to climate change have urged Australia to abandon coal power generation and to prohibit new coal plants or expansion of existing plants.

- The **"Boe Declaration"** of the **"Pacific Islands Forum"** reaffirmed that **climate change** remains the **single greatest threat** to the livelihoods, security and wellbeing of the peoples of the Pacific.

- Boe declaration recognises and reaffirms the commitments and principles of **Biketawa Declaration, 2000**.

Biketawa Declaration
- It is a declaration agreed to by all the leaders of the **Pacific Islands Forum** constituting a framework for coordinating response to regional crises.
- The declaration was agreed to at the **31st Summit of Pacific Islands Forum Leaders, held at Kiribati in October 2000**.
- It's principles are: commitment to good governance, belief in the liberty of the individual under the law, upholding democratic processes and institutions and recognising **the vulnerability of member countries to threats to their security**.

Pacific Islands Forum
- The Pacific Islands Forum is the region's premier **political and economic policy organization which was founded in 1971**.
- It comprises **18 members:** Australia, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

Note:

> The Pacific Islands Forum aims to foster cooperation between governments, collaboration with international agencies, by representing the interests of its members for a region of peace, harmony, security, social inclusion, and prosperity, so that all Pacific people can lead-free, healthy, and productive lives.

What the highway is all about

The 1,400-km India-Mayanmar-Thailand project is expected to boost cross-border trade in a massive way

Route of the highway The IMT Highway will link Moreh in India to Mae Sot in Thailand via Myanmar; along route Moreh (India) to locations of Tamu, Kalewa, Yagyi, Monywa, Mandalay, Meiktila, Nay Pyi Taw, Payagyi, Theinzayat, Thaton, Hpa'an, Kawkareik and Myawaddy in Myanmar, further linking to Mae Sot in Thailand

Sonepur Fair

> The **Sonepur Mela** also known as **Malegaon Mela or Harihar Kshetra Mela** is held on Kartik Poornima (full moon day) in the month of November in Sonepur, Bihar, on the confluence of river Ganga and Gandak.

> It is the **biggest cattle fair of Asia** and stretches on from fifteen days to one month.

Yellow Vest Protest

> France has witnessing demonstrations against fuel tax rises, high living costs and other issues.

> The protest became known as the **"yellow vest" or "gilets jaunes" movement** because protesters took to the streets wearing the high-visibility yellow jackets that are required to be carried in every vehicle by French law.

> The original "Yellow Vest" protests were dominated by working-class people who were upset over fuel tax increase and their declining living standards.

> Protests have also erupted over other issues, including calls for higher wages, lower taxes, better pensions and easier university entry requirements.

India-Myanmar-Thailand Trilateral Highway

> Thailand's envoy recently said that **India, Myanmar,** and **Thailand** should expedite negotiations on a motor vehicles pact.

> The nearly **1,400-km trilateral highway** is aimed at giving a massive boost to trade in Southeast Asia and is an integral part of **India's "Act East" policy**.

> The project is scheduled to be **completed by 2021**.

> The **National Highways Authority of India** has been appointed as the technical executing agency and project management consultant for implementing this project.

Virgin Galactic's SpaceShipTwo

> Sir Richard Branson owned **Virgin Galactic** test flight **SpaceShipTwo** has successfully reached to an altitude of more than 50 miles.

> It is the first time a plane has reached the **boundary of space** and earth before making its descent back to earth.

> This flight success is a step closer towards **making commercial space tourism into reality**.

India Post Launches E-commerce Portal

> The **Department of Post,** under Ministry of Communications, has launched an **e-Commerce portal**.

> It will provide an **e-marketplace to sellers** who have been left behind in e-Commerce space like **rural artisans, self-help groups, women entrepreneurs, state and central PSUs and autonomous bodies** to sell their products to buyers across the country.

> India Post will be able to leverage its vast postal network for e-commerce services for doorstep delivery of products.

Note:

India Post's Deen Dayal SPARSH Yojana

➤ **Department of Posts, under Ministry of Communications,** has presented scholarship to students under **Deen Dayal SPARSH (Scholarship for Promotion of Aptitude & Research in Stamps as a Hobby) Yojana**.

➤ Deen Dayal SPARSH yojana was launched to **promote philately**.

➤ Under this annual scholarships is awarded to children of **Standard VI to IX having good academic record** and also pursuing **Philately as a hobby** through a competitive selection process in all postal circles.

Meghdoot Award

➤ Department of Post under **Ministry of Communications,** presented the Meghdoot Award to **Grameen Dak Sevaks** and **employees** of the department.

➤ The scheme of National awards known as 'Meghdoot Awards' was **instituted in the year 1984** to provide encouragement to the postal employees by recognizing performance of high standard.

Mahila Kisan Awards

➤ **DD Kisan under Ministry of Information and Broadcasting** has launched a first-of-its-kind **reality show 'Mahila Kisan Awards'**. The show will see participation of **women farmers from across India**.

➤ The format of the show will include two women farmers talking about their achievements in each episode. Judges will score these contestants based on their assessment.

Jnanpith Award Conferred on Amitav Ghosh

➤ **Amitav Ghosh** has won the **54th Jnanpith award (Jnanpith Award-2018)** for his contribution to literature.

➤ It is the first time that the Jnanpith is awarded to a **writer in English language**.

➤ His most recent book, **The Great Derangement; Climate Change and the Unthinkable,** was released in 2016.

Jnanpith Award

➤ The Jnanpith Award was **established in 1961**. It is presented annually by the Bharatiya Jnanpith to an author for their "outstanding contribution towards literature".

➤ It is bestowed **only on living Indian writers** writing in Indian languages included in the **Eighth Schedule to the Constitution of India and English**.

International Conference on Bears

➤ International conference on bears was organised in **Agra (Uttar Pradesh)**.

➤ The conference is hosted by **Wildlife SOS (a conservation non-profit organisation)** in collaboration with **Bear Care Group from the US and Canada**.

Acute Flaccid Myelitis

➤ Acute Flaccid Myelitis (AFM), a polio-like disease has been found to be affecting children.

➤ **Enteroviruses** (a group of viruses such as poliovirus and enterovirus A71, and West Nile virus) are the main cause of the disease in children.

■■■

Note:

Key Points

Details

Summary

Key Points

Details

Summary