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I. POLITY & GOVERNANCE

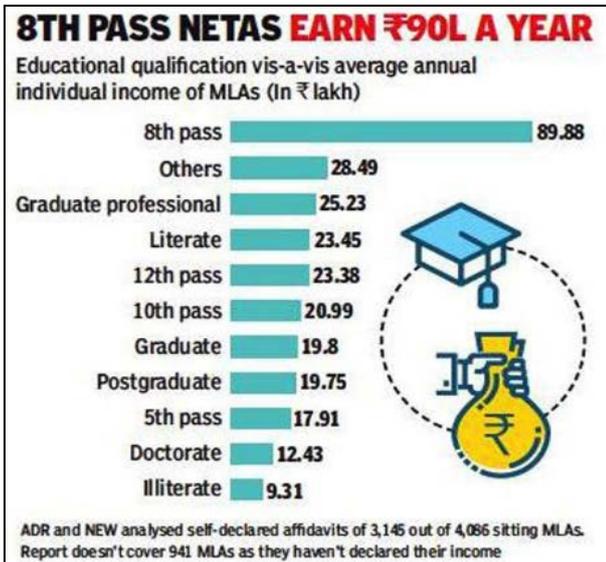
TOPIC: GS II, PRIVILEGES OF MEMBERS OF LEGISLATURE

1. Salaries of Legislators Survey

Source: The Hindu

Why in news:

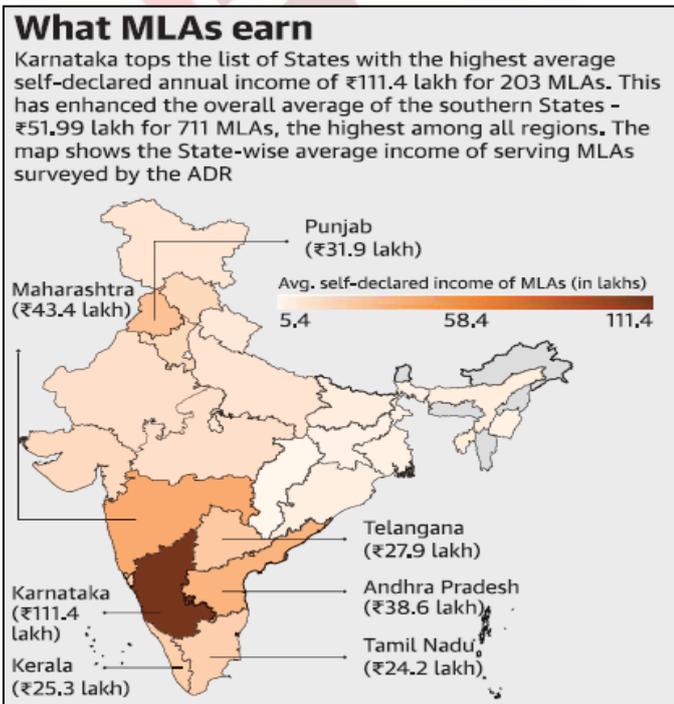
The income analysis released by ADR and National Election Watch shows sitting MLAs across the country have an average annual income of Rs. 24.59 lakh.



Some facts of the survey:

- MLAs from Karnataka topped the charts with an average of over Rs. 1 crore per annum
- MLAs from Chhattisgarh earn the lowest with their average annual income coming at Rs. 5.4 lakh.

The study also revealed that the average income of men was more than double that of the women



Recommendations:

- It should be mandatory for candidates to declare their annual income in their affidavit, whether or not they have filed their ITR returns
- There should be a uniform categorisation of professions declared by the candidates.
- Candidates should declare the detailed amount of income from each source.

TOPIC: GS II, GOVERNMENT POLICIES AND INTERVENTION

2. Triple Talaq Bill

Source: The Hindu

Why in news:

The Union Cabinet has cleared an ordinance that makes talaq-e-biddat, or instant triple talaq, a criminal offence that will attract a maximum jail term of three years. It however, incorporates safeguards like provision for bail for an accused before the start of the trial.

Background:

- The practice of triple talaq continues unabated despite it being annulled by the Supreme Court order in 2017 and Lok Sabha having passed The Muslim Women (Protection of Rights on Marriage) Bill, 2017 (which bans talaq in all form) pending in Rajya sabha.

Triple Talaq bill:

- The Muslim Women (Protection of Rights on Marriage) Bill, 2017 makes all declaration of talaq, including in written or electronic form, to be void and illegal.
- It defines talaq as talaq-e-biddat or any other similar form of resulting in instant and irrevocable divorce a cognizable and non-bailable offence with imprisonment upto three years along with a fine.
- Police can lodge an FIR only if the complaint is filed by the wife or her blood relatives by virtue of her marriage. Non-relatives or neighbours cannot lodge a complaint.

Criticism of the bill:

- It is silent on the payment of maintenance to the woman and children after the husband goes to jail.
- Being applicable explicitly on Muslims, this bill is discriminatory. There are cases of men from other communities deserting their wives. Besides, marriage is a civil contract in Islam and bringing penal provisions is wrong and unnecessary.
- If the law declares instant triple talaq invalid then it is self-contradictory for a law to both allow a marriage to continue while proposing a jail term for the offending husband.

Key provisions The Muslim Women (Protection of Rights on Marriage) Bill makes instant triple talaq illegal and imposes a jail term of up to 3 years

BAIL PROCESS:
While the proposed law will remain "non-bailable" – bail cannot be granted at the police station – the accused can approach a magistrate for bail even before the trial



BY THE AGGRIEVED ALONE:
Police can register the FIR only when a complaint is made by the victim (wife) or her blood relative

BURYING THE HATCHET: If the offence is compoundable, i.e. the husband and wife can have a settlement before a magistrate, the case can be withdrawn

Laws on triple talaq in other countries:

- There are 22 countries including India’s neighbours Pakistan, Bangladesh and Sri Lanka are among the countries that have banned the practice of instant triple talaq prevalent among muslims for divorce.
- In Pakistan and Bangladesh man who wishes to divorce his wife to give the arbitration council a written notice of his having done so, and supply a copy of the same to his wife.
- In Afghanistan, divorce through three pronouncements made in only one sitting is considered to be invalid.

Way forward:

- The mere lack of consensus in the House is not a good enough reason to promulgate an ordinance as it could amount to a subversion of the parliamentary process.
- The core of the issue still remains unaddressed, i.e. whether a marital wrong which is a civil matter, should lead to prosecutions and jail terms?

TOPIC: GS II, GOVERNMENT POLICIES AND INTERVENTION

3. Rationalisation of Centrally Sponsored Schemes

Source: The Hindu

Why in news:

The 15th Finance Commission has called for rationalisation of the Several Centrally Sponsored Schemes (CSS) as rationalization of such schemes would give the State Governments greater flexibility in financing.

Observations of the 15th Finance Commission:

- General status of public financing in States remains stressed owing to payments made towards the Seventh Pay Commission, loan waivers given to farmers and debt restructuring under the UDAY scheme.

- There are many boutique schemes with dubious outcomes in the States and even the ones which are operational do not justify the high establishment cost being incurred on them. Reserve Bank of India has also pointed towards the stress on State finances as result of these schemes.
- State governments have demanded an increased flow of untied fiscal resources in place of tied resources that come with CSS.

Background:

- The proliferation of the CSSs was debatable until the Ninth Five-Year Plan, when the total number of schemes shot up to 360, accounting for about 60% of Central assistance.
- In 2013, the Planning Commission announced the merger of several CSSs, reducing the count to 66 which were further reduced to 27 following the report of a committee of chief ministers.

TOPIC: GS II, GOVERNMENT POLICIES AND INTERVENTION

4. Sex Offenders’ Registry

Source: The Hindu

Why in news:

- National sex offenders registry has been launched recently having names and details of people convicted of various sexual offences across the country.
- India became the ninth country in the world to have a National Database on Sexual Offenders (NDSO), accessible only to law enforcement agencies for the purpose of investigation and monitoring.

About the registry:

- The first-of-its-kind national sex offenders’ registry has names and details of some 4.4 lakh people those convicted for sexual offences 2005 onwards for various sexual offences across the country.
- It includes name, address, photograph and fingerprint details of the convict.
- It will be maintained by the National Crime Records Bureau, that will also track whether the State police were updating the records on time.
- It will include offenders convicted under charges of rape, gang rape, Protection of Children from Sexual Offenders Act (POCSO) and eve teasing.

Issues related to the Registry:

- Sexual assaults in children’s shelter homes and increasing incidents of NRI grooms abandoning their brides have not been included.

- Many states are reluctant to procure specially-designed forensic kits that would help in tamper-proof collection of evidence leading to better conviction in such crimes.



Cybercrime.gov.in

- This portal has been launched to receive complaints from citizens on objectionable online content related to child pornography, child sexual abuse material, and sexually explicit material such as rape and gang rape.
- It also has the facility for complainant to track his/her report by opting for 'report and track' option using his/her mobile number.
- The complaints registered through this portal will be handled by police authorities of respective State/UTs.

Significance:

- This will aid the victims/complainants along with the civil society organisations and responsible citizens to anonymously report such complaints.

TOPIC: GS II, GOVERNMENT POLICIES AND INTERVENTION

5. Swachhata Hi Seva

Source: PIB

Why in news:

- The Prime Minister has recently launched the 'Swachhata Hi Seva' Movement on 15th September to boost nationwide public participation in the Swachh Bharat Abhiyan, and catalyse the fulfilment of Gandhi's dream of a Clean India.
- It aims at generating greater public participation towards Swachhata and to reach out to the poor and marginalised and provide them with sustainable sanitation services.
- It will continue till Mahatma Gandhi's birth anniversary on 2nd October.

- 450 districts and 20 States and Union Territories in India have become Open Defecation Free in last four years.
- Sanitation coverage in India had increased from 40% to over 90% in the four years of the project.

II. SOCIAL JUSTICE

TOPIC: GS I, SOCIAL JUSTICE

6. Leprosy-free' tag for India questioned

Source: The Hindu

Why in news:

- Supreme Court has questioned the leprosy free tag for India.
- India was declared leprosy-free in 2005 but the reality is entirely different according to reports of National Leprosy Eradication Programme which said that only 543 districts of the total 642 districts in the country has achieved the World Health Organisation-required prevalence rate of less than one case of leprosy for 10,000 persons.
- The underestimation of cases of leprosy and the declaration of elimination of leprosy has resulted in the diversion of funds which would have otherwise been dedicated to eliminating leprosy.

Problems of Leprosy victims in India:

- Social Stigma.
- Denial of fundamental rights and basic human rights.
- Unable to get benefit of various welfare schemes such as the Antyodaya Anna Yojana (AAY).
- Deprived of housing, basic civic amenities, adequate sanitary facilities and rehabilitation programmes.

Way forward:

- Government should take steps for eradicating discrimination against leprosy and rehabilitation of victims.
- Provide the leprosy patients reservation under the disability quota and with Below Poverty Line (BPL) cards to enable them secure their right to food.
- Medical staff in private and government hospitals should be sensitised to ensure that leprosy patients do not face discrimination.
- Drugs for leprosy should be made available free of cost and should not go out of stock at all public health centres.

7. Pradhan Mantri Matru Vandana Yojana

Source: The Hindu

Why in news:

- It has been found that, under the Centre's maternity benefits programme nearly 37 lakh women have received cash incentives since the launch of Matru Vandana Saptah last year.
- The Pradhan Mantri Matru Vandana Yojana (PMMVY) offers pregnant women and lactating mothers ₹5,000 as assistance for the first birth in the family. The programme's aim is to reduce malnutrition.
- It is implemented by the Ministry of Women and Child Development.

Condition of women in India:

- In India, every third woman is undernourished and every second woman is anaemic.
- An undernourished mother almost inevitably gives birth to a low birth weight baby which extends throughout the life cycle since the changes are largely irreversible.
- Owing to economic and social distress many women continue to work to earn a living for their family right up to the last days of their pregnancy and resume working soon after childbirth, even though their bodies might not permit it, thus preventing their bodies from fully recovering on one hand, and also impeding their ability to exclusively breastfeed their young infant in the first six months.

About Pradhan Mantri Matru Vandana Yojana (PMMVY):

It is a Maternity Benefit Programme that is implemented in all the districts of the country in accordance with the provision of the National Food Security Act, 2013.

It aims to:

1. Provide partial compensation for the wage loss in terms of cash incentives so that the woman can take adequate rest before and after delivery of the first living child.
2. To improve health seeking behaviour amongst the Pregnant Women and Lactating Mothers (PW& LM).

8. Manual Scavenging

Source: The Hindu

What is manual scavenging?

Manual scavenging refers manual removal of untreated human excreta from bucket toilets or pit latrines by

hand with buckets and shovels. It is a caste-based occupation in India.

Information regarding manual scavenging in India:

- It has been officially prohibited by law in 1993 because it is regarded as a dehumanizing practice (if not done in a safe manner).
- Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013' came into effect from 6th December, 2013 replacing Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993. This Act intends to achieve its objectives of eliminating insanitary latrines, prohibition of employment as manual scavengers etc
- According to this act, National Commission for Safai Karamcharis (NCSK) would monitor implementation of the Act and enquire into complaints regarding contravention of the provisions of the Act.

Main provisions of the act:

- Violation can be punished with two years of imprisonment or fine or both.
- Under the provision, no person, local authority or agency should engage or employ people for hazardous cleaning of sewers and septic tanks.
- Mechanised cleaning of septic tanks is the prescribed norm.

Issues related to the act:

- The law (Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013) is not being enforced properly and there is no fear of penalty.
- In spite of a well-funded programme such as the Swachh Bharat Abhiyan in operation, little attention is devoted to this aspect of sanitation.
- The requirements of worker safety and provision of safety gear for rare instances when human intervention is unavoidable are often ignored.
- The Ministry of Drinking Water and Sanitation in its manual of 2016 on toilet design acknowledges the requirement of mechanical pumps in rural areas to clear septic tanks which is often not available.
- Sanitation has expanded along with urbanisation, but it has brought with it a higher number of deaths as workers clean septic tanks manually.
- Toilet designs proposed by the government include those in which fully composted waste must be removed from pits every two years.
- In the absence of political will and social pressure, more lives could be lost because more tanks are

being built in rural and urban areas as part of the drive to construct toilets.

Way forward:

- The penalties for violation of the act must be uniformly and visibly enforced.
- It is equally important for state governments to address the lack of adequate machinery to clean septic tanks as it is for central government.
- It must be ensured that the proposals for new toilet design does not become a fresh avenue to oppress members of some communities who are expected to perform such work, reflecting social inequalities.

TOPIC: GS II, HEALTH

9. Healthcare system in India

Source: The Hindu

Condition of Health care in India:

- India has a poor condition of healthcare especially in villages where infrastructure is in a dilapidated state.
- Government hospitals often fail to provide necessary health services to the poor, with private hospitals being out of the reach of most people which is becoming worse in the wake of country’s growing population and lack of resources. United Nations estimates that by 2025, India would be the most populated nation in the world, surpassing China.
- Budget allotment on healthcare services in India is 2% of GDP which is extremely low despite having a low rank in the Healthcare index (India’s rank is 154/194).

Role of Ayushman Bharat under current healthcare scenario:

- It aims to create a healthy new India by providing insurance to poor and weaker sections of the society.
- It intends to improve secondary and tertiary healthcare services.
- Initiatives under Ayushman Bharat:
 - To create a network of health and wellness centres that will bring the healthcare system closer to the people and provide comprehensive healthcare services including treatment for non-communicable diseases and maternal and child health services.
 - To cover around 10 crore poor and vulnerable families by providing coverage up to 5 lakh rupees per family, per year for secondary and tertiary care hospitalization.

Non-Communicable Diseases in India:

- By 2020, diabetes will pose to be a major challenge. Currently, China has the highest number of diabetics in the world and given the rate at which it is growing in India, it can be assumed that India will cross China in few years.
- India is also called as the cancer capital of the world, the stroke capital, and the heart disease capital of the world.
- According to a World Economic Forum study, the world will spend \$30 trillion by 2030 and India’s share of that would be \$4.8 trillion.

Way forward:

- Appropriate measures for early detection and prevention must be undertaken.
- The demand-supply gap in healthcare must be reduced by establishing new infrastructure. Currently, India has 1.1 beds per 1,000 people, while the global average is 2.7 and the WHO recommendation is 3.5. India needs to work towards increasing that and increasing the doctor-patient ratio as well.

III. ECONOMY

TOPIC: GS III, INDIAN ECONOMY AND ISSUES RELATING TO PLANNING, GROWTH

10. Govt steps in to shore up Rupee, curb Current Account Deficit

Source: Times of India

Why in news:

The government has announced a plan to check “non-essential imports”, boost exports and initiated five measures to attract dollar inflows into the country to trim the widening current account deficit that is seen as a factor behind the rupee’s sharp slide against the dollar.

RESCUING THE RUPEE

- To cut trade deficit, ease pressure on rupee: Check non-essential imports, boost exports
- To ease overseas borrowings and increase fund inflow: Manufacturing cos can borrow up to \$50 mn with 1-yr maturity, instead of 3 yrs
- Mandatory hedging conditions for infrastructure loans to be reviewed
- Exemption from withholding tax on Masala Bond issues in 2018-19
- Foreign portfolio investors can now invest more in corporate bonds

The five measures are:

1. Mandatory hedging conditions for infrastructure loans through the external commercial borrowing (ECB) route will be reviewed.
2. 20% exposure limits of foreign portfolio investors' corporate bond portfolio to a single corporate group, company and related entities will be removed, and 50% of any issue of corporate bonds will be reviewed.
3. Manufacturing sector entities will be permitted to avail external commercial borrowings up to \$50 million with a minimum maturity of one year instead of the earlier period of three years.
4. Masala Bond issues done in the current financial year will be exempted from withholding tax.
5. Restrictions on Indian banks' market making in Masala Bonds, including restrictions on underwriting of such bonds, will be removed.

Significance:

- These five concrete steps announced would help increase inflows by \$8-10 billion. The measures are essentially on the capital account side where the aim is to infuse more dollars into the economy through routes like ECBs, FPI, Masala Bonds etc. There is intent to put some curbs on imports and give a push to exports. There can be no debate that all these measures are positive for the rupee as they attack the fundamentals of demand and supply for dollars.

Are these measures helpful?

- The measures announced by the government will work if the primary reason is weaker fundamentals. In case it is a global phenomenon, then it may not really help to correct the fall though it could cause some reversal in the first two or three sessions.
- Also, it should be remembered that what the government has announced will take time to work through. There will be a review by companies on the hedging requirements for infra loans from global markets. For this to work, it will take time for companies to take such decisions.

Background:

- The rupee, which closed at 71.84 against the dollar (as on 14th of Sep, 2018), has lost 12% against the US currency since January, making it Asia's worst-performing currency. There is a need to control the current account deficit and bring more dollars into the country.
- The pressure on rupee and the current account may not be a short-term phenomenon. That's because of rising interest rates in the US, high

crude oil prices and its impact on emerging markets and the trade war between the US and China. Therefore, the government's intervention was necessary.

TOPIC: GS III, INDIAN ECONOMY AND RELATED ISSUES

11. Dena Bank, Vijaya Bank and BoB to merge

Source: The Hindu

Why in news:

The government proposed the amalgamation of state-owned Bank of Baroda (BoB), Dena Bank and Vijaya Bank to create India's third-largest bank. The move is part of the reforms initiated in the public sector banking segment.

Background:

- The merger of these three state-owned banks is a part of the government's agenda of consolidation of public sector banks. The consolidation was proposed by the Alternative Mechanism.
- The Union Cabinet in August 2017 approved amalgamation of Public Sector Banks through Alternative Mechanism (AM) with an aim to facilitate consolidation among the Nationalised Banks to create strong and competitive banks.
- The decision on amalgamating the three government banks follows the merger of the five associate banks of State Bank of India with itself. The government had also moved to offload its majority stake in IDBI Bank to Life Insurance Corporation of India.

Significance:

- The amalgamated bank would be the third largest bank in India and will be strong competitive lender with economies of scale.
- It would be a strong competitive bank with economies of scale. The entity would also be positioned for a substantial rise in customer base, market reach and operational efficiency.

IV. ENVIRONMENT

TOPIC: GS III, CONSERVATION

12. Power Ministry launches Chiller Star Labelling Program

Source: PIB

Why in news:

Ministry of Power, Government of India launched Chiller Star Labelling Program, an ambitious program to

encourage the deployment of Energy Efficient chiller systems in the country.

- It was launched considering the occasion of 24th World Ozone Day and 31st Anniversary of Montreal Protocol, which would be observed on 16th September 2018.

About Chiller Star Labelling Program:

- The Program has been formulated by Bureau of Energy Efficiency (BEE).
- The Program envisages providing star rating in terms of its energy performance. Initially, the program is launched on voluntary basis and will be valid upto 31st December 2020.
- BEE has developed an online registration platform for easy and expeditious approval under this initiative. The manufacturers will be able to register online for availing appropriate star rating of chiller equipment. Based on the test certificate from designated agencies and after due verification from BEE, the star label (1 to 5) will be awarded, with 5 star being the most efficient chillers.

Significance:

- This initiative will promote advancement technology for central HVAC (Heating, ventilation, and air conditioning) systems and will also facilitate energy efficient solutions for the large commercial and industrial applications.
- Through Chiller star labelling Program, it is estimated that more than 500 million units of electricity would be saved in 2019 along with Green House Gases (GHG) reduction of 0.5 million-ton equivalent of CO₂. It is also anticipated to save more than 4 Billion units of electricity in the year 2030 with CO₂ emission reduction of 3.5 million ton through this program.

Background:

- Chillers are used extensively for space conditioning of buildings and for industrial process cooling applications. The size of Indian chiller market which stood at 1 Million Tonne per year at 2017, is projected to grow at a CAGR of 3.6 per cent fuelled by a growth in the retail, hospitality and infrastructure projects. Chillers, being energy intensive system, contribute more than 40 per cent of the total energy consumption in commercial buildings. Therefore, it is important to optimize energy performance of chillers and create awareness amongst the end users to adopt transition towards energy efficient chillers.

TOPIC: GS II, BILATERAL, GLOBAL GROUPINGS AND AGREEMENTS INVOLVING INDIA AND/OR AFFECTING INDIA'S INTERESTS

13. World Ozone Day: 16th September

Source: UN website

Why in news:

- The International Day for Preservation of Ozone Layer (or World Ozone Day) is observed every year on September 16 for the preservation of the Ozone Layer.
- Theme for World Ozone Day 2018: **'Keep Cool and Carry On: The Montreal Protocol'**.
- The theme for World Ozone Day 2018 is a motivational rallying call urging all of us to carry on with the exemplary work of protecting the ozone layer and the climate under the Montreal Protocol. The theme has two connotations – that our work of protecting the ozone layer also protects climate and that the Montreal Protocol is a “cool” treaty, as exemplified by its outstanding success.

What You Can Do:

- Protect yourself from ozone layer depletion by avoiding excessive sun exposure.
- Take care of your appliances to minimize ozone layer impact.

Significance of the day:

- In 1994, the UN General Assembly proclaimed 16 September the International Day for the Preservation of the Ozone Layer, commemorating the date of the signing, in 1987, of the Montreal Protocol on Substances that Deplete the Ozone Layer.

Background:

- A number of commonly used chemicals have been found to be extremely damaging to the ozone layer. Halocarbons are chemicals in which one or more carbon atoms are linked to one or more halogen atoms (fluorine, chlorine, bromine or iodine). Halocarbons containing bromine usually have much higher ozone-depleting potential (ODP) than those containing chlorine. The man-made chemicals that have provided most of the chlorine and bromine for ozone depletion are methyl bromide, methyl chloroform, carbon tetrachloride and families of chemicals known as halons, chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).

Vienna Convention for the Protection of the Ozone Layer:

- The scientific confirmation of the depletion of the ozone layer prompted the international community to establish a mechanism for cooperation to take action to protect the ozone layer. This was formalized in the Vienna Convention for the Protection of the Ozone Layer, which was adopted and signed by 28 countries, on 22 March 1985. In September 1987, this led to the drafting of The Montreal Protocol on Substances that Deplete the Ozone Layer.

Montreal Protocol:

- The principal aim of the Montreal Protocol is to protect the ozone layer by taking measures to control total global production and consumption of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge and technological information.
- The Montreal Protocol requires the control of nearly 100 chemicals, in several categories. For each group or annex of chemicals, the Treaty sets out a timetable for the phase-out of production and consumption of those substances, with the aim of eventually eliminating them completely.
- Percentage reductions relate to the designated base-line year for the substance. The Protocol does not forbid the use of existing or recycled controlled substances beyond the phase-out dates.
- There are a few exceptions for essential uses where no acceptable substitutes have been found, for example, in metered dose inhalers (MDI) commonly used to treat asthma and other respiratory problems or halon fire-suppression systems used in submarines and aircraft.

Implementation of the Montreal Protocol:

- Implementation of the Montreal Protocol progressed well in developed and developing countries. All phase-out schedules were adhered to in most cases, some even ahead of schedule.
- Attention focused initially on chemicals with higher ozone-depletion potentials including CFCs and halons. The phase-out schedule for HCFCs was more relaxed due to their lower ozone-depletion potentials and because they have also been used as transitional substitutes for CFCs.
- The HCFC phase-out schedule was introduced in 1992 for developed and developing countries, the latter with a freeze in 2015, and final phase-out by 2030 in developed countries and 2040 in developing countries.

- In 2007, Parties to the Montreal Protocol decided to accelerate the HCFC phase-out schedule for both developed and developing countries.

Universal ratification:

- On 16th September 2009, the Vienna Convention and the Montreal Protocol became the first treaties in the history of the United Nations to achieve universal ratification.

Kigali Amendment:

- The Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer reached agreement at their 28th Meeting of the Parties on 15 October 2016 in Kigali, Rwanda to phase-down hydrofluorocarbons (HFCs).

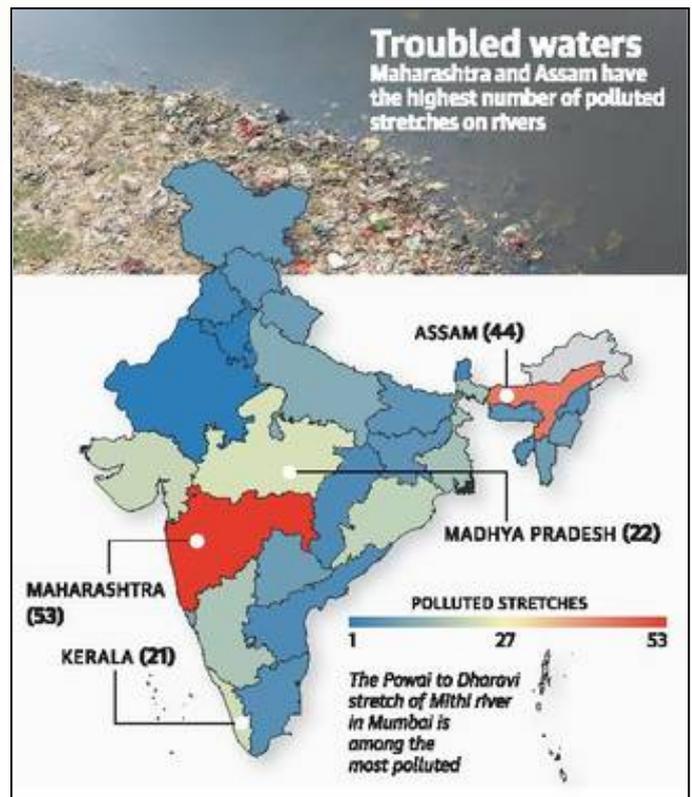
TOPIC: GS III, CONSERVATION AND POLLUTION RELATED ISSUES

14. More river stretches are critically polluted: CPCB

Source: The Hindu

Why in news:

The Central Pollution Control Board (CPCB) has released a report on the extent of pollution in rivers in India. Based on the recommendations of the National Green Tribunal, the CPCB last month apprised the States of the extent of pollution in their rivers.



Key findings:

- The number of polluted stretches of the country's rivers has increased to 351 from 302 two years ago, and the number of critically polluted

stretches — where water quality indicators are the poorest — has gone up to 45 from 34.

- While the ₹20,000 crore clean-up of the Ganga may be the most visible of the government's efforts to tackle pollution, the CPCB says several of the river's stretches — in Bihar and Uttar Pradesh — are actually far less polluted than many rivers in Maharashtra, Assam and Gujarat. These three States account for 117 of the 351 polluted river stretches.
- The most significant stretches of pollution highlighted by the CPCB assessment include the Mithi river— from Powai to Dharavi — with a BOD (Biochemical Oxygen Demand) of 250 mg/l; the Godavari — from Someshwar to Rahed — with a BOD of 5.0-80 mg/l; the Sabarmati — Kheroj to Vautha — with a BOD of 4.0-147 mg/l; and the Hindon — Saharanpur to Ghaziabad — with a BOD of 48-120 mg/l.
- In its compilation of polluted stretches in Uttar Pradesh, the Ganga, with a BOD range of 3.5-8.8 mg/l is indicated as a 'priority 4' river.
- The cultural significance of the Ganga is such that there's been greater focus on it but many more rivers are far more polluted.

Background:

- The CPCB, since the 1990s, has a programme to monitor the quality of rivers primarily by measuring BOD, which is a proxy for organic pollution — the higher it is, the worse the river.
- The health of a river and the efficacy of water treatment measures by the States and municipal bodies are classified depending on BOD, with a BOD greater than or equal to 30 mg/l termed 'priority 1,' while that between 3.1-6 mg/l is 'priority 5.'
- The CPCB considers a BOD less than 3 mg/l an indicator of a healthy river.

About Central Pollution Control Board (CPCB):

Central Pollution Control Board (CPCB) was constituted in 1974 under the Water (Prevention and Control of Pollution) Act, 1974. Further, it was entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981. Its functions are:

- to promote cleanliness of streams and wells in different areas of the states by prevention, control and abatement of water pollution
- to improve the quality of air and to prevent, control or abate air pollution in the country
- to co-ordinate the activities of the State Pollution Control Boards and resolve disputes among them, and

- to lay down, modify or annul, in consultation with the state governments concerned, the standards for stream or well, and lay down standards for the quality of air.

TOPIC: GS III, CONSERVATION, ENVIRONMENTAL POLLUTION AND DEGRADATION

15. India Cooling Action Plan (ICAP)

Source: India Today

Why in news:

MoEFCC has released the draft India Cooling Action Plan (ICAP). ICAP has been prepared by the ministry after extensive deliberations and multi-stakeholders engagement in public domain for receiving comments.

- India is the first country in the world which has come up with a document to address the cooling requirements across sectors and lays down actions which can help reduce such demand.

Goals of INDIA COOLING ACTION PLAN (ICAP):

- ICAP) aims to assess the cooling requirements and the associated refrigerant demand and energy use across sectors in next 20 years.
- The plan includes developing a research and development innovation ecosystem for indigenous development of alternative technologies.
- ICAP draft focuses on skilling of RAC service technicians and suggests interventions in each sector to provide for sustainable cooling and thermal comfort for all.
- It also aims to map the available technologies to cater to the cooling requirement including passive interventions, refrigerant-based technologies, and alternative technologies such as not-in-kind technologies.

MOEFCC sets following targets under ICAP Draft:

- Reduction of cooling demand across sectors by 20 per cent to 25 per cent by the year 2037-38
- Reduction of refrigerant demand by 25 per cent to 30 per cent by the year 2037-38
- Reduction of cooling energy requirements by 25 per cent to 40 per cent by the year 2037-38
- Training and certification of 100,000 servicing sector technicians by the year 2022-23, in synergy with Skill India Mission.

Way forward:

- India needs thermal comfort defined to guide interventions for energy efficiency in buildings and there is also a need to estimate cooling demand based on thermal comfort definition and not on sales of ACs.

- National building codes should be amended to ensure all buildings are designed in a way that indoor conditions do not get hotter than the national goal for majority of hours in the year using passive design.

TOPIC: GS II, IMPORTANT INTERNATIONAL INSTITUTIONS, AGENCIES AND FORA, THEIR STRUCTURE, MANDATE

16. Government, FAO launches agriculture project in 5 states with GEF grant

Source: The Hindu

Why in news:

Union government (Agriculture and Environment ministries) along with UN body Food and Agriculture Organization (FAO) has launched agriculture project that seeks to bring transformative change in farm sector through conservation of biodiversity and forest landscapes.

Key points about the project:

- The project is being funded with US \$33.5 million grant from Global Environment Facility (GEF).
- It aims to transform agricultural production to generate global environmental benefits by addressing biodiversity conservation, land degradation, climate change mitigation and sustainable forest management. It strives to bring harmony between conservation and development efforts of the country.
- The project is to be implemented in five landscapes namely, Madhya Pradesh, Mizoram, Odisha, Rajasthan and Uttarakhand.

About Food and Agriculture Organization (FAO):

- It is specialised agency of UN that leads international efforts to defeat hunger.
- Its parent organization is UN Economic and Social Council (UNESCO).
- It was established on 16 October 1945 and its headquarters are in Rome.
- It has 194 member states, along with European Union (member organization).

About Global Environment Facility (GEF):

- It is multilateral financial mechanism that provides grants to developing countries for projects that benefit global environment and promote sustainable livelihoods in local communities.
- It was established on the eve of 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems.

- It is based in Washington DC, United States.
- It is an international partnership of 183 countries, international institutions, civil society organizations and the private sector that addresses global environmental issues.
- GEF funds are available to developing countries and countries with economies in transition to meet the objectives of the international environmental conventions and agreements.
- The World Bank serves as the GEF Trustee, administering the GEF Trust Fund.
- It addresses six designated focal areas: biodiversity, climate change, international waters, ozone depletion, land degradation and Persistent Organic Pollutants.
- It is a FINANCIAL MECHANISM for five major international environmental conventions: the Minamata Convention on Mercury, the Stockholm Convention on Persistent Organic Pollutants (POPs), the United Nations Convention on Biological Diversity (UNCBD), the United Nations Convention to Combat Desertification (UNCCD) and the United Nations Framework Convention on Climate Change (UNFCCC).

TOPIC: GS III, MAJOR CROPS CROPPING PATTERNS IN VARIOUS PARTS OF THE COUNTRY

17. Policy on 'jhum' cultivation

Source: PIB

Why in news:

A recent NITI Aayog report has recommended that the Ministry of Agriculture should take up a "mission on jhum cultivation" to ensure inter-ministerial convergence.

Key points of the report:

- Various authorities often have divergent approaches towards shifting cultivation. This creates confusion among grass-roots level workers and jhum farmers said the report.
- Therefore, shifting cultivation fallows must be legally perceived and categorised as 'regenerating fallows' and credit facilities must be extended to those who practise shifting cultivation.
- Land for shifting cultivation should be recognised as "agricultural land" where farmers practise agro-forestry for the production of food rather than as forestland.

About Jhum cultivation:

Jhum cultivation, also known as the slash and burn agriculture, is the process of growing crops by first clearing the land of trees and vegetation and burning

them thereafter. This practice is considered as an important mainstay of food production for a considerable population in North-East India.

- The practice involves clearing vegetative/forest cover on land/slopes of hills, drying and burning it before onset of monsoon and cropping on it thereafter.
- After harvest, this land is left fallow and vegetative regeneration is allowed on it till the plot becomes reusable for same purpose in a cycle.
- Initially, when Jhum cycle was long and ranged from 20 to 30 years, the process worked well.
- However, with increase in human population and increasing pressure on land, Jhum cycle reduced progressively (5-6 years) causing problem of land degradation and threat to ecology of the region at large.
- Burning of residues provide potash to the soil. However it has several cons. Tree burning leads to:
 - Higher CO₂, NO₂ and other Greenhouse gases (GHGs) emissions
 - Loss of Biomass hence higher surface run off of rainwater leading to soil erosion

Issues with Jhum Cultivation:

- While the practice ensures food security it does not provide adequate cash for the families and thus they are shifting to regular agriculture, particularly to horticulture.
- The MGNREGA has also had an impact on reducing dependency of people on shifting cultivation.
- The report notes that between 2000 and 2010, the land under shifting cultivation dropped by 70 %.
- People are returning to fallow land left after shifting in a shorter span. Earlier the cultivators returned to fallows after 10-12 years, now they are returning in three to five years which has impacted on the quality of the soil.

V. INTERNATIONAL RELATIONS

TOPIC: GS II, BILATERAL AND REGIONAL GROUPINGS

18. India-EU-BTIA

Source: PIB

Why in news:

Romania has recently agreed to take lead to re-start negotiations on India-EU-BTIA. Other important decisions of Romania include decision to open a Consulate in Chennai and supporting India's claim for permanent membership of United Nation Security Council.

About BTIA (Bilateral Trade and Investment Agreement):

- It is basically a Free Trade Agreement between EU and India, which was started in 2007. However, despite having 16 rounds of talks it remains incomplete as both sides have failed to resolve certain issues. The last round of negotiation was held in 2013 and thereafter negotiations has been suspended.

Advantages of the agreement:

- Greater market access for Indian Goods and Services internationally.
- Greater investment by EU in India.
- Greater opportunities for Indian IT companies as well as IT professionals thus increase in Job creation.
- Greater export earnings which will enhance forex reserves
- Increase in GDP
- Access to better technology and better quality products.

Causes for deadlock:

A. EU's demands:

- A zero duty access to the Indian auto market which is unacceptable to India as India is presently trying to strengthen its own automobile industry. Further, India does not provide such privileges to even other countries like Japan, South Korea etc.
- Tax reduction on wines and spirits which is not acceptable by India as these are regarded as 'sin goods' and this will affect the states which derive huge revenue from liquor sales.
- To liberalise accountancy and legal services but India is reluctant to let foreign lawyers and accountants to practice on its soil.
- EU is unhappy with India's procurement policy and preferential treatment to small scale industries as they discourage competitive bidding.
- EU considers India as data insecure country.
- EU is disenchanted with India's Model Bilateral Investment Treaty has taken struck down the provision which allowed the investors to challenge the government in an international tribunal.

B. India's demands/ concerns:

- Consider India as 'data secure' as it is crucial for Indian IT sectors.
- Seeks improved market access for its IT companies as well as and software professionals.

- EU to follow India's model Bilateral Investment Treaty i.e to opt for international forum only if domestic courts have been exhausted.
- EU's sanitary and phyto-sanitary measures along with technical barriers to trade and non-ariff barriers are hampering Indian exports.

Way forward:

- In the wake of Brexit, India will find it less difficult to tackle visa issues with the EU countries as UK was the main country in EU which had a hard Visa policy but wanted a liberal policy for alcohol in India.
- Early signing of this agreement is necessary as it serves geopolitical angle of both sides. India didn't attend China's One Road One Belt and EU attended but not signed it. It can be an instrument for checking this hegemonic policy of China.
- India should opt for negotiation with the individual countries.

TOPIC: GS II, INDIA AND ITS NEIGHBOURING COUNTRIES

19. Doklam final report lauds government

Source: The Hindu

Why in news:

A report by the parliamentary panel on external affairs has lauded the efforts of the government for the overall handling of the Doklam crisis by standing up against China but has expressed concern that Chinese infrastructure built close to the India-Bhutan-China tri-junction has not been dismantled.

Details of the report:

- The report has lauded the army's reaction to the crisis and checking the PLA troops from continuing with their road construction but Indian diplomacy failed to measure up to the task.
- The report is concerned about the multiple reports which indicates Chinese presence around Doklam plateau and the statements from Chinese authorities about chances of similar happenings in future.

Suggestions of the panel:

- Indian government should not take the Chinese lightly at any point and continue to monitor the Chinese activities along the border in general and the area in particular very intensely.
- Military infrastructure, especially the roads on the Indian side, need to be improved.
- There is also an urgent need for high-technology gear to prepare our security forces to respond befittingly.

TOPIC: GS II, BILATERAL RELATION

20. U.S. want India to Import more

Source: The Hindu

Why in news:

- US President has unleashed a trade war against many countries based on the principle of America First after imposing higher duties on imports to spur local manufacture and increase jobs in the U.S.
- The same spirit is also behind the move to pressure India to import at least \$10 billion a year more from the U.S. over the next three years.
- U.S. has demanded India is to cut its trade deficit by close to half, through increased purchases of civilian aircraft and natural gas.

How does it affect India?

- India's exports to the U.S. will suffer along with losing huge amount of forex reserves.
- It will increase the exchange rate in favour of US. It will lead to further devaluation of rupee thus making oil further costly.
- Rising prices could dampen consumer demand, resulting in poorer profit margins for industry.

TOPIC: GS II, INTERNATIONAL IMPORTANT INSTITUTIONS

21. UN Report on Child Mortality

Source: The Hindu

Why in news:

According to the new mortality estimates released by UNICEF, the World Health Organization (WHO), the United Nations Population Division and the World Bank Group, a child dies in every 5 seconds all around the world mostly of preventable causes.

Main findings of the report:

- Globally, in 2017, half of all deaths under five years of age took place in sub-Saharan Africa, and another 30% in South Asia.
- A baby born in sub-Saharan Africa or in South Asia was nine times more likely to die in the first month than a baby born in a high-income country
- The most risky period of child's life is the first month.
- The estimates also said that the number of children dying under five has fallen dramatically from 12.6 million in 1990 to 5.4 million in 2017.

- Child mortality rate in rural area is 50% higher than children in urban areas.
- Those born to uneducated mothers are more than twice more likely to die before turning five than those born to mothers with a secondary or higher education.

Causes:

- Most children under 5 die due to preventable or treatable causes such as complications during birth, pneumonia, diarrhea, neonatal sepsis and malaria.
- Among children between 5 and 14 years of age, injuries become a more prominent cause of death, especially from drowning and road traffic. Within this age group, regional differences exist, with the risk of dying for a child from sub-Saharan Africa 15 times higher than in Europe.

Way forward:

- There is an urgent need to stop to this which requires radical reforms like structural changes in policy making and simple solutions like providing medicines, clean water, electricity and vaccines.

VI. SCIENCE & TECHNOLOGY

TOPIC: GS III, AWARENESS IN SPACE

22. Pluto was erroneously rejected as a planet: Scientists

Source: The Hindu

Why in news:

Scientists are arguing that denying Pluto planetary status is invalid and erroneous. A team of scientists is indicating that the basis on which Pluto was rejected as a planet does not have any support in research literature.

Background:

- When Pluto was discovered in 1930, it was the ninth planet in the solar system based on an overestimation of its size. However, Pluto seemed to look out of place among the other larger planets after the discovery of swarms of ice dwarfs – icy rocks in the Kuiper Belt, at the very edge of the solar system billions of miles from the sun. Due to this, some astronomers suggested that Pluto could be just another Kuiper Belt Object (KBO) and not a planet.
- The IAU, in 2006, designated Pluto a ‘dwarf planet’ along with Ceres in the asteroid belt and Xena, an object in the Kuiper belt, which is an icy ring of

frozen objects that circle the solar system beyond Neptune’s orbit.

Three conditions for a celestial object to be called a planet:

1. It must orbit the Sun;
2. It should be massive enough to acquire an approximately spherical shape;
3. It has to ‘clear its orbit’, that is, be the object that exerts the maximum gravitational pull within its orbit.

Owing to this third property, if an object ventures close to a planet’s orbit, it will either collide with it and be accreted, or be ejected out.

Why Pluto is not considered to a planet?

- Pluto is affected by Neptune’s gravity. It also shares its orbit with the frozen objects in the Kuiper belt. Based on this, the IAU deemed that Pluto did not ‘clear its orbit’. Dwarf planets, on the other hand, need only satisfy the first two conditions.

Way ahead:

- Physics has many examples where an idea was once discarded for being incorrect, and much later emerged in a different form and gained acceptance — the concept of photons, for instance. And then again, if Pluto were to be re-designated a planet, many more complications would arise. For one thing, Charon, Pluto’s moon, is much too large to be called a satellite. Judging by this, the Charon-Pluto system should then rightly be called a binary planet system. This would then lead to classifying several other sets of bodies as binary planets. Recent research shows that both the Kuiper Belt and the Oort cloud, a shell of objects that surrounds the entire solar system far beyond the Kuiper belt, contain objects that can then be called planets, thereby complicating the issue. Denying planetary status to Pluto is then nothing less than a sweep of Occam’s razor, and Pluto remains a dwarf planet, albeit an exceptional one.

Some facts about Pluto:

- Pluto has five known moons, the largest of which is Charon. Charon is about half the size of Pluto itself, making it the largest satellite relative to the planet it orbits in our solar system.
- Pluto orbits the Sun about 3.6 billion miles (5.8 billion km) away on average.
- A year on Pluto is 248 Earth years. A day on Pluto lasts 153 hours, or about 6 Earth days.

- Pluto has a thin atmosphere of nitrogen, methane and carbon monoxide. The atmosphere has a blue tint and distinct layers of haze.

TOPIC: GS III, INDIGENIZATION OF TECHNOLOGY AND DEVELOPING NEW TECHNOLOGY

23. INMAS develops India's first indigenous Anti-Nuclear Medical Kit

Source: The Hindu

Why in news:

In a major shot in the arm for paramilitary and police forces, scientists at Institute of Nuclear Medicine and Allied Sciences (INMAS) claim to have developed India's first indigenous medical kit that may ensure protection from serious injuries and faster healing of wounds resulting from nuclear warfare or radioactive leakage.

- The kit has been developed for the armed, paramilitary and police forces only as they are the first ones likely to get exposed to radiation — be it during nuclear, chemical and biomedical (NCB) warfare or a rescue operation after a nuclear accident.

About the kit:

- The kit has over 25 items, including radio-protectors that provide 80-90% protection against radiation and nerve gas agents, bandages that absorb radiation as well as tablets and ointments.
- The contents include an advanced form of Prussian blue tablets, highly effective in incorporating Radio Cesium (Cs-137) and Radio Thallium, among the most feared radioisotopes in nuclear bombs that destroy human body cells.
- The kit also has an Ethylenediaminetetraacetic acid (EDTA) injection that traps uranium in the guts and blood of victims during a nuclear accident or warfare. When EDTA is injected into the veins, it "grabs" heavy metals and minerals and removes them from the body.
- The kit also has Ca-EDTA Respiratory Fluid, which is the inhalation formula for chelation, or grabbing, of heavy metals and radioactive elements deposited in lungs through inhalation at nuclear accident sites.
- The kit also has a radioactive urine/biofluid collector which is cost-effective, easy to store and can safely dispose of the urine of a person affected by radiation. The collector has silk at its base, more than enough to jellify 500 millilitre of urine, which could be disposed of safely.

- The kit has anti-gamma ray skin ointment that protects and heals the radiation damage on the skin.
- Also part of the kit is the amifostine injection, a US Food and Drug Administration (FDA) approved conventional radiopharmaceutical that limits damage from gamma radiation.
- Another medicine in the form of a tablet is Indranil 150 mg. It is being introduced as a reserve emergency drug for services, rescue workers and places where high acute exposures are expected and lives will be at stake.

Significance of the kit:

- During radioactive accidents thousands of patients may be rushed to hospitals. In several cases, if not most, they will also have traumatic, orthopaedic, surgical injuries or burns. The blood of such patients will have radioactive elements and will require wound dressing with significantly higher absorption capacity so that nothing leaks and infects others. Such highly absorptive dressings and gauze also make it safer for the medical staff to handle radioactive patients as the chance of their own contamination is reduced.
- The kit is a potential alternative to those being procured from nations such as the US and Russia at much higher prices. Such medicines will help everyone and not just soldiers. This will also help the victims affected in terrorist attacks.

Institute of Nuclear Medicine & Allied Sciences (INMAS):

- INMAS is laboratory of Defence Research and Development Organisation (DRDO). It was established in 1961 and is located in New Delhi. It is involved in nuclear medicine research and responding to nuclear accidents and explosions. Since 1968, Department of Nuclear Medicine in INMAS is offering two-year diploma in radiation medicine. It is first formal training program in nuclear medicine in the world.

TOPIC: GS III, INDIGENIZATION OF TECHNOLOGY AND DEVELOPING NEW TECHNOLOGY

24. Man Portable Anti-Tank Guided Missile (MPATGM)

Source: The Hindu

Why in news:

The Defence Research and Development Organisation (DRDO) successfully tested a low-weight indigenously developed man-portable anti-tank guided missile (MPATGM) at its Ahmednagar range.

About MPATGM:

- The MPATGM is a third-generation anti-tank guided missile (ATGM), which has been under development by DRDO in partnership with Indian defense contractor VEM Technologies Ltd. since 2015.
- Fitted with a high-explosive anti-tank (HEAT) warhead, the MPATGM reportedly boasts a top attack capability and has a maximum engagement range of about 2.5 kilometers.
- It works on fire and forget principle and is known for its top attack capabilities. It is effective against both stationary and moving targets.

The demand:

- It will be deployed in infantry and parachute battalions of Indian Army. Its development was necessitated after armed forces sought low-weight and man portable weapon systems as per battle ground requirements. At present, India Army has indigenously developed third generation anti-tank guided missile (ATGM) Nag in its arsenal but it is not portable to meet its demand.
- The Indian Army needs over 40,000 missiles for its infantry and mechanised units. While it has rejected the US-built Javelin system, a formal decision on the procurement on the Israeli SPIKE system is awaited.

TOPIC: GS III, INDIGENIZATION OF TECHNOLOGY AND DEVELOPING NEW TECHNOLOGY

25. ISRO's PSLV-C-42 launches two U.K.

Satellites

Source: The Hindu

Why the news:

ISRO's PSLV-C42 launched two satellites from the United Kingdom – NovaSAR and S1-4 from the Satish Dhawan Space Centre.

Key facts:

- The two satellites, owned by Surrey Satellite Technology Ltd (SSTL) were placed in a circular orbit around the poles, 583 km from Earth.
- The commercial arm of ISRO, Antrix Corporation earned more than ₹220 crore on this launch.
- This would be the 44th flight of the PSLV and the third launch by ISRO this year. The PSLV-C-42 is the lightest version of the PSLV flying in its core-alone version without the six strap-on motors.
- The NovaSAR is a technology demonstration mission designed to test the capabilities of a new low cost S-band SAR platform. It will be used for

ship detection and maritime monitoring and also flood monitoring, besides agricultural and forestry applications.

- The S1-4 is a high-resolution Optical Earth Observation Satellite, used for surveying resources, environment monitoring, urban management and for disaster monitoring.

Polar Satellite Launch Vehicle (PSLV):

- PSLV is the third generation launch vehicle of India, designed and developed by ISRO's Vikram Sarabhai Space Centre, Thiruvananthapuram.
- It is the first Indian launch vehicle to be equipped with liquid stages.
- It consists of four stages, using solid and liquid propulsion systems alternately. Each stage of PSLV is self-contained vehicle capable of functioning independently with own propulsion systems.
- It is capable of launching 1600 kg satellites in 620 km sun-synchronous polar orbit and 1050 kg satellite in geo-synchronous transfer orbit.
- There are three variants of PSLV, namely, PSLV-G, PSLV-CA, PSLV-XL. In the standard configuration, it measures 44.4 m tall, with a lift off weight of 295 tonnes.
- Some notable payloads launched by PSLV include India's first lunar probe Chandrayaan-1, India's first interplanetary mission, Mars Orbiter Mission (Mangalyaan) and India's first space observatory, Astrosat.

TOPIC: GS III, INDIGENIZATION OF TECHNOLOGY AND DEVELOPING NEW TECHNOLOGY

26. Cyclone-30: India's Biggest Cyclotron Facility

Source: Indian Express

Why in news:

India's biggest cyclotron facility that will produce radioisotopes vital for diagnosis and treatment of cancer has become operational.

Key points:

- The Cyclone-30 — is housed at the Kolkata-based Variable Energy Cyclotron Centre (VECC) under the Department of Atomic Energy (DAE) and will start regular production by mid-next year after supporting nuclear systems are commissioned and regulatory clearances are obtained.
- It will be first and only cyclotron facility in country to produce Germanium 68 radioisotopes, which is

used in diagnosis of breast cancer. It will also produce Palladium 103 isotopes, which is used for the treatment of prostate cancer. In its future stages, it will also produce Iodine 123 isotopes, which can help detect thyroid cancer.

- This facility will provide for affordable radio isotopes and related radiopharmaceuticals for the entire country especially, for eastern India and also have export potential for Germanium-68 and Gallium-68 generator for in-situ production of Gallium-68 and Palladium-103 isotopes, used for breast cancer diagnosis and prostate cancer treatment, respectively.

Significance:

- With increasing number of Indians diagnosed with cancer every year, the cyclotron machine will produce radioisotopes for nuclear imaging specifically for cancer detection.
- While the Dhruva reactor at Bhabha Atomic Research Centre (BARC) in Mumbai also produces this radioisotope, it is difficult to be transported to hospitals in far-off areas. This radioisotope can be used for imaging of lungs, brain and heart and gives more accurate images. Since the radioisotope has a half-life of 110 minutes, it is economically viable to have such a machine close to the hospital. With the Cyclone-30 machine in VECC, we will be able to cater to all the cancer hospitals in Kolkata and some in eastern India. The machine has a capacity of catering to 60 to 90 patients in a day.
- At present, many radioisotopes are imported while some are produced in nuclear research reactors such as the Apsara at the Bhabha Atomic Research Centre (BARC), and remaining in cyclotrons facilities run by large private hospitals. The addition of Cyclone-30 will increase the availability of radioisotopes and bring down the cost of treatment.

About Cyclotron:

- Cyclotron is any of a class of devices that accelerates charged atomic or subatomic particles in a constant magnetic field. The first particle accelerator of this type was developed in the early 1930s by the American physicists Ernest Orlando Lawrence and M. Stanley Livingston. A cyclotron consists of two hollow semicircular electrodes, called dees, mounted back to back, separated by a narrow gap, in an evacuated chamber between the poles of a magnet. An electric field, alternating in polarity, is created in the gap by a radio-frequency oscillator.

VII. PRELIMS/MISCELLANEOUS

27. World Hindi Conference

Why in news:

- 11th World Hindi Conference was held in Mauritius and New Delhi.
- It is celebrated on 14 September because on this date in 1949, the Constituent Assembly of India had adopted Hindi written in Devanagari script as the official language of India.

Hindi's Popularity in other countries:

A. Fiji: The island country in the South Pacific Ocean is the only other country, apart from India, where Hindi is designated as an official language.

- The migration of the language to Fiji can be traced back to the late nineteenth century, when it became a British colony and Indians were sent there as sugarcane labourer, majority of them belonged to the linguistic region of northern India like Bihar, Uttar Pradesh, Rajasthan.
- Today, about 37 per cent of Fiji's population consists of Indians.

B. Mauritius: The island nation on the Indian Ocean passed on as a colony from the Dutch to the French and then to British over the course of three centuries.

- Indian are present in Mauritius from the time when it was a Dutch colony and a large number of slaves and convicts were brought in from Bengal and South India. This trend followed during the French colonial period as well.
- With the British occupying the island in 1810 and the indentured labour system being established from the 1830s in order to meet the requirements of the sugarcane industry, Indian presence in Mauritius increased.

28. Fixed Dose Combinations Drugs

Why in news:

Supreme Court has allowed the sale of painkiller Saridon along with three other banned fixed dose combinations (FDCs) drugs Piriton and Dart.

Background:

- As per the recommendations of Drugs Technical Advisory Board (DTA), Union Health Ministry banned the manufacture, sale or distribution of 328 varieties of FDC drugs for human consumption.
- DTA found no therapeutic justification in the FDCs drugs in maximization of benefit for the patient due to the added effects of the multiple medicinal products given together. However, this can involve health related risks.

- Many popular FDCs were banned including Saridon.

Why sale of the said drugs allowed?

- The report of the Drug Technical Advisory Board on the basis of which the ban was brought about was not given to them
- The drugs are being soled before 1988.

Why FDC is popular?

- Instead of buying two, or more, separate medicines, a patient can buy just one FDC medicine to treat multiple illness symptoms.
- Pharma companies invest more in it because it is far cheaper and quicker to combine existing active ingredients to make new products than to discover new medicines and manufacture them separately.

29. National Sports Awards -2018

Why in news:

- National Sports Awards has been recently distributed for recognising and rewarding excellence in sports.
- Rajiv Gandhi Khel Ratna Award is given for the spectacular and most outstanding performance in the field of sports by a sportsperson over a period of four year. (Citation + cash prize of Rs. 7.5 lakh)
- Arjuna Award is given for consistent outstanding performance for four years. (Statuettes, certificates and cash prize of Rs. 5 lakh)
- Dronacharya Award is for coaches for producing medal winners at prestigious International sports events. (Statuettes, certificates and cash prize of Rs. 5 lakh).
- Dhyan Chand Award for life time contribution to sports development. (Statuettes, certificates and cash prize of Rs. 5 lakh)
- Rashtriya Khel Protsahan Puruskar is given to the corporate entities (both in private and public sector) and individuals who have played a visible role in the area of sports promotion and development. (Trophies and certificates)

30. EyeROV TUNA

India's first underwater robotic drone EyeROV TUNA was recently handed over to Naval Physical and Oceanographic Laboratory (NPOL) of Defence Research and Development Organisation (DRDO).

Key facts:

- It has been designed and developed indigenously by Kochi-based start-up IROV Technologies Pvt Ltd (EyeROV).

- It is smart micro-ROV (Remotely Operated Vehicle) or underwater drone.
- This underwater drone will be used by NPOL for research and development activities which in turn would result in commercial product for defence purposes.
- It is designed to perform visual inspection and surveys of submerged structures up to depth of 100 metres.
- It can be-controlled using laptop or joystick. It is fitted with camera that helps to give live HD video feed of the submarine environment.
- It is also equipped to perform variety of functions, including inspection of ship hulls, undersea cables or bridge moorings, fish farms, dams, port structure and bridge foundations and also in various underwater research operations. Its commercial use will eliminate need for costlier and riskier manual inspection by divers.

31. Nahargarh Biological Park

- Rajasthan's first lion safari has been inaugurated at Nahargarh Biological Park.
- The park is located on Delhi-Jaipur National Highway in the Aravalli foothills, nearly 12 kilometers from state capital Jaipur.
- Lions in this park were brought from Junagarh, Gujarat under an exchange programme.
- The park will serve for breeding lions and also centre of attraction for tourists.

32. Jharkhand government introduces Electric Cars for official use

- The state government of Jharkhand has introduced electric vehicles for official use. With the development, Jharkhand has become the fifth state of India and the first state in eastern India to procure the eco-friendly vehicles for government use.

33. World's first Hydrogen Train

- Germany has rolled out the world's first hydrogen-powered train, signalling the start of a push to challenge the might of polluting diesel trains with costlier but eco-friendly technology.
- Hydrogen trains are equipped with fuel cells that produce electricity through a combination of hydrogen and oxygen, a process that leaves steam and water as the only emissions. Excess energy is stored in ion lithium batteries on board the train.

34. S–Band Polarimetry Doppler Weather Radar (DWR) at Satish Dhawan Space Centre

- Indian Space Research Organisation (ISRO) has inaugurated S–Band Polarimetry Doppler Weather Radar (DWR) at Satish Dhawan Space Centre in Sriharikota spaceport, Andhra Pradesh.
- The radar has been indigenously developed by Bharat Electronics Ltd (BEL), Bengaluru under ToT (Training of Trainers) from ISRO. It is the seventh radar of such type manufactured in the country under “Make in India”.
- It will be used for observation of weather system up to range of 500 km and also for early warning of severe weather events.
- It will provide advanced information, enhances lead-time essential for saving lives and property in event of natural disaster associated with severe weather.

35. Exercise Aviaindra-18

- Exercise Aviaindra is an Air Force level exercise between India and the Russian Federation.
- First Aviaindra was conducted in 2014 and has been planned as a bi-annual exercise.
- Exercise Aviaindra 18 is being conducted at Lipetsk, Russia from 17 Sep to 28 Sep 18 and will be conducted in Jodhpur, India from 10 Dec to 22 Dec 18.
- The aim of the exercise is focused towards anti-terrorist operations in a bi-lateral scenario. The exercise would further enhance the co-operation and understanding each other’s Concept of Operations.

Question:

1. Despite being declared as Leprosy free more than a decade before, India continues to have a large number of victims of this disease. Why? Highlight different types of problems that the victims of leprosy have to face in India. Suggest measures for their upliftment.
2. Manual scavenging is not only an economical problem but a social problem. Explain. What are the reasons for its persistence in the Indian society despite being banned more than two decades ago?
3. Non communicable diseases is upcoming challenge for Indian health care system. Discuss. Do you think that by running schemes the healthcare in India can be effectively improved?
4. The triple talaq bill is an instrument for women empowerment. However the bill , in current form has some loopholes, Discuss.
5. Briefly explain BTIA. What are the causes for its non implementation? Can it serve as an instrument to serve geopolitical interests?
6. US want of reducing trade deficit with India by increasing India’s export is not in India’s interest in the long run. DO you agree?