

**WEEKLY CURRENT AFFAIRS MAGAZINE for**



# U.P.S.C. - C.S.E.

APRIL-VOL-I-2022

1 April to 7 April



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*Success is born of action...*

## **Topic 01 UNGA VOTE TO SUSPEND RUSSIA FROM UNHRC OVER UKRAINE CRISIS**

### ***Importance for Prelims: IR***

The UN General Assembly will vote Thursday on a draft resolution seeking to suspend Russia from the UN Human Rights Council, a move initiated by the US after harrowing images emerged of corpses strewn across streets of the Ukrainian city Bucha, with Washington terming “Moscow’s participation in the top human rights body as a farce”.

- The Assembly will vote on a draft resolution that will decide to suspend the rights of membership within the Human Rights Council of the Russian Federation”.
- The draft resolution titled ‘Suspension of the rights of membership of the Russian Federation in the Human Rights Council’ The draft resolution was submitted for co-sponsorship by Ukraine, Antigua and Barbuda, Canada, Colombia, czech republic, Estonia, France, Georgia, Germany, Italy, Japan, Latvia, Liberia, Lithuania, Luxembourg, Poland, Republic of moldova, the united kingdom and the U.S.
- The draft resolution expresses grave concern at the on -going human rights and humanitarian crisis in Ukraine, particularly at the reports of violations and abuses of human rights and violations of international humanitarian law by Russia, as well as gross and systematic violations and abuses of human rights.

### **What’s the Human Rights Council?**

- The Human Rights Council consists of 47 member states, elected directly and individually by secret ballot by the majority of the members of the General Assembly.

### **What’s the voting procedure at the UNGA?**

- The UN General Assembly, by a two-thirds majority of the members

present and voting, may suspend the rights of membership in the Council of a member of the Council that commits gross and systematic violations of human rights.

- Abstentions do not count and the resolution requires two-thirds of yes/no votes to be adopted.

### **What has been India's track record so far?**

- Since January, India has abstained on a minimum of eleven occasions on procedural votes and draft resolutions within the United Nations Security Council, the General Assembly and the Human Rights Council condemning Russian aggression against Ukraine.

### **What has India said so far, especially on the Bucha killings?**






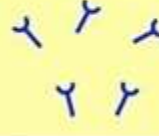
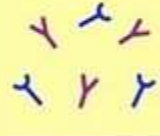
- New Delhi on Tuesday unequivocally condemned the deeply disturbing reports of civilian killings in the Ukrainian town of Bucha and supported the call for an independent investigation, because it underlined that when innocent human lives are at stake, diplomacy should prevail because the only viable choice.
- India encourages talks between Ukraine and Russia, including at the level of their presidents, and asserted that if New Delhi can be of any assistance in this matter, it would be "glad to contribute".
- India's approach will be to promote dialogue to finish the conflict.

### **Is there a precedent for suspension?**

- Russia's current membership on the UNHRC ends in December 2023.
- The only time a member state was suspended from the Geneva-based Human Rights Council was Libya in 2011 when in an unprecedented move a resolution was adopted within the General Assembly that had expressed deep concern about the human rights situation in the Libyan Arab Jamahiriya in the wake of Muammar Al-Gaddafi's violent crackdown on anti-government protestors.

## Topic 02. AEL BLOOD GROUP

*Importance for Prelims: Science & Tech*

	Type A	Type B	Type AB	Type O
<b>Antigen (on RBC)</b>	Antigen A 	Antigen B 	Antigens A + B 	Neither A or B 
<b>Antibody (in plasma)</b>	Anti-B Antibody 	Anti-A Antibody 	Neither Antibody	Both Antibodies 
<b>Blood Donors</b>	Cannot have B or AB blood Can have A or O blood	Cannot have A or AB blood Can have B or O blood	Can have any type of blood Is the universal recipient	Can only have O blood Is the universal donor

According to pathologists, about 40 to 50 people in the world have Ael blood.

- According to pathologists, there are barely 40 to 50 people in the world with Ael blood group, most of whom are in South-East Asia.
- Ael has the least amount of A antigen among A subgroups and can only be detected through special tests.
- There are a few other rare blood groups and rare phenotypes reported from India many of which have been discovered among Gujaratis. Bombay group, Indian blood group phenotypes like In(a+), In(b-), In5-(INRA-), and other rare phenotypes like Colton-null, Emm-null, P- null, and Rh-null.

### **Rare Blood Groups:**

- The blood groups which are seen less in human population are said to be rare blood groups.
- Among the various rare blood groups are Rh null, AB negative, A negative, B negative and AB positive.

### **The Bombay Blood Group:**

- The Mumbai blood type (also known as hh), is deficient in expressing antigen H.
- It means the RBC of hh blood group has no antigen H.
- Often the hh blood group is confused with the O group.
- The difference is that the O group has Antigen H, while the hh group does not
- The rare Mumbai blood type was initially discovered in Mumbai (then Bombay) in 1952 by Dr Y M Bhende.
- Globally, the hh blood type has an incidence of one in four million.
- However, this blood group is more common in South Asia than anywhere else because of inbreeding and close community marriages.

### **Topic 03.ECGC LTD. RISK PERCEPTION**

#### ***Importance for Prelims: Economy***

ECGC Ltd. (Formerly known as export credit Guarantee Corporation of India Ltd.) totally owned by the govt. of india (Ministry of Commerce and Industry), was established in 1957 as Export Risks Insurance Corporation with the objective of promoting exports from the country by providing credit risk insurance and related services for exports.

- ECGC is essentially an export promotion organization, seeking to improve the competitiveness of the Indian exports by providing them with credit insurance covers.
- After the introduction of insurance covers to banks during the period 1962-64, the name was changed to Export Credit & Guarantee Corporation Ltd in 1964.
- It was changed to ECGC Ltd in August 2014.
- The Corporation has introduced various export credit insurance schemes to meet the requirements of commercial banks extending export credit.
- The insurance covers enable the banks to extend timely and adequate export credit facilities to the exporters.
- ECGC keeps its premium rates at the optimal level.

#### **The Corporation has set before itself the following objectives:**

- To assist Indian exporters in managing their credit risks by providing timely info on worthiness of the consumers, bankers and also the countries.
- To protect the Indian exporters against unforeseen losses, which may arise because of failure of the customer, bank or issues faced by the country of the customer by providing price effective credit insurance covers in the type of Policy, factoring and Investment Insurance Services comparable to similar covers available to exporters in other countries.

- To protect the Indian exporters against unforeseen losses, which may arise due to failure of the buyer, bank or problems faced by the country of the buyer by providing cost effective credit insurance covers in the form of Policy, Factoring and Investment Insurance Services comparable to similar covers available to exporters in other countries.
- To facilitate availability of adequate bank finance to the Indian exporters by providing surety insurance covers for bankers at competitive rates.
- To achieve improved performance in terms of profitability, financial and operational efficiency indicators and achieve optimum return on investment.
- To develop world class expertise in credit insurance among staff and guarantee continuous innovation and accomplish the best client satisfaction by delivering top of the range service.
- To teach the shoppers by continuous publicity and effective promoting.
- ECGC provides a variety of insurance covers to Indian exporters against the risk of non – realization of export return because of industrial or political risks different types of credit insurance covers to banks and other financial institutions to enable them to extend credit facilities to exporters and Export Factoring facility for MSME sector which is a package of financial merchandise consisting of working capital finance, credit risk protection, maintenance of sales ledger and collection of export receivables from the client situated in an overseas country.

**Risk Classification:**

- The ECGC provides a range of credit risk insurance covers to exporters against loss in export of goods and services due to commercial risks, economic risks, political risks and payment risks. ECGC classifies the countries into seven categories in the ascending order of risks perceived viz: Insignificant Risk- A1 Low Risk-A2 Moderately Low Risk-B1



Moderate Risk-B2 Moderately High Risk-C1 High Risk- C2 extremely High Risk-D ECGC conducts a comprehensive review of the countries covered by it based on an internal country risk methodology.

- This methodology aims at evaluating the country not only on the prevalent economic and political settings, but also on the correct developments that would have an impact on the future, with an increase in horizon of 12 months, as well as forecasts based on the strength and weakness of the country in terms of its economic and political strength.
- Open cover– For a large majority of nations, the ECGC hasn't placed any limit for covering political risks.
- Such countries are referred to as 'open cover' countries.
- It enables policyholders to obtain cover on a additional liberalized basis.
- For those countries under this category ECGC insurance cover under short term is available for political risks for all transactions irrespective of limit on individual buyer or bank.
- However comprehensive cover (commercial plus political risk) is available depending on ECGC's assessment of the credit worthiness of the buyer/bank.
- Restricted Cover Category-I (RCC-I)- Certain countries where the political risks are very high, cover is granted on a restricted basis and revolving limits are issued in place of credit limits.
- The procedure for sanction of revolving limits is that the same as for credit limits.
- A revolving credit limit caps the maximum amount that an exporter can borrow from the line of credit.
- For countries in RCC-1, revolving limits are approved specifically on a case-to-case basis, normally valid for a year.
- However, the premium rates for the shipments insured under the

insurance covers remain unchanged.

- Category-II(RCC-II)-In respect of the few remaining countries under restricted cover, which are considered as high-risk countries, specific approvals are given on the merits of each case.
- Normally the period of validity of the specific approval is six months.

## **Topic 04. AGRI EXPORTS**

### ***Importance for Prelims: Economy***

Srilanka on restricted category India's exports of agricultural product, as well as marine and plantation product, for 2021-22 hit a record at \$50 billion.

- The Indian government has been encouraging agricultural exports to meet an ambitious target of \$60bn by 2022.
  - Traditionally, Basmati rice is one among the highest export commodities.
  - However, now there is an unusual spike in the export of non-basmati rice.
  - In 2020-21, India exported 13.09 million tonnes of non-basmati rice (\$4.8bn), up from an average 6.9 million tonnes (\$2.7bn) in the previous five years.
  - Indian buffalo meat is seeing a strong demand in international markets due to its lead character and near organic nature.
  - The export potential of buffalo meat is tremendous, specifically in countries like Vietnam, Hong Kong and Indonesia.
  - The Ministry of Food Processing Industries shows that the contribution of agricultural and processed food products in India's total exports is 11%.
- | Commodities               | 2020-2021 | 2021-22 (Ap-Nov) |
|---------------------------|-----------|------------------|
| Marine Product            | 6.0       | 5.4              |
| Rice (other than Basmati) | 4.8       | 3.9              |
| Spices                    | 4.0       | 2.7              |
| Sugar                     | 2.8       | 2.3              |
| Buffalo Meat              | 3.2       | 2.2              |
| Agri                      |           |                  |

### **Export Initiatives:**

- Agriculture and processed food production export Development Authority (APEDA) is an apex body that promotes export trade of agricultural products in India.
- Set-up by the Ministry of Commerce and Industry under APEDA Act 1985.
- APEDA is mandated with the responsibility of export promotion and development of the scheduled agricultural products.

### Some of the initiatives of APEDA:

- **Hortinet:** An integrated traceability system covering 40-plus vegetables.
- It provides Internet based electronic services to the stakeholders for facilitating farm registration, testing and certification of Grape, Pomegranate and Vegetables for export from India to the European Union in compliance with standards.
- A traceability System for Basmati rice (a registered GI product).
- **Grapenet** :- a web based certification and traceability software system for monitoring fresh grapes exported from India to the European Union.
- Farmer Connect portal to help farmer producers' organisations, cooperatives and exporters.
- This helps them to create profiles and post their sale offers on the web platform.
- Exporters also can post their enquiries or require, and view matching sale offers.
- **Virtual Trade Fair** :- A meeting place for exhibitors, visitors, exporters and business to exchange data on new product and establish new partnerships.
- **SaaS model:** Hybrid solution combining its traditional web-based SaaS model for its stakeholders, augmented by an authentic, private Blockchain layer for further data security and authentication.
- **Other Agencies:-** Marine Products Export Development Authority (MPEDA), Tobacco Board, Tea Board, Coffee Board, Rubber Board and Spices Board to boost the exports of agricultural produce.
- **Agriculture Export Policy in 2018:-** Agriculture Export Policy, 2018 was launched to double the agri exports from present \$ 30 bn to \$ 60 bn by 2022 and \$ 100 bn thenceforth, and integrate the farmers with world chains.

- **Transport and Marketing Assistance for Specified Agriculture Products:–**
- The scheme aims for helping the international component of freight handling and marketing of agricultural merchandise.
- 100% FDI is allowed in the following activities of agriculture through the automatic route.

## Topic 05. GREAT INDIAN BUSTARD

*Importance for Prelims: Environment*



Supreme Court seeks update on power cables at Great Indian Bustard's habitat. Electrocutation from overhead high-voltage wires contributed to the birds' falling population.

- Wildlife conservationist MK Ranjitsinh Jhala filed a petition in the Supreme Court of India in 2019 for power companies to lay underground wiring in the sacred groves of Jaisalmer.
- The petition was to shield GIBs and lesser floricans from extinction.
- SC had ordered the power companies in the states of Rajasthan and Gujarat April 19, 2021 to make the high-tension power lines underground so that the large birds do not get caught in the web.
- A three-member high-level committee was also shaped to look into the

practicability of the work.

### **About Great Indian Bustard or Godavan:-**

- It is the State bird of Rajasthan and is taken into account India's most critically endangered bird.
- It is considered the flagship grassland species, representing the health of the grassland ecology.
- Its population is confined mostly to Rajasthan and Gujarat.
- Small populations occur in Maharashtra, Karnataka and Andhra Pradesh.
- The bird is under constant threats due to collision/electrocution with power transmission lines, hunting (still prevalent in Pakistan), habitat loss and alteration as a result of widespread agricultural expansion, etc.
- **Protection Status:** IUCN
- **Red List:** Critically
- **Endangered CITES:** Appendix 1
- **Convention on Migratory Species (CMS):** Appendix I

### **Wildlife (Protection) Act, 1972:**

- Schedule 1 Around 122 of the total 150 GIBs found in the country were in Jaisalmer district of Rajasthan, according to a 2018 GIB count.
- Since then, the population has declined and currently less than a hundred GIBs remain in the wild.
- The birds weigh 14-15 kilograms each and can reach a height of up to 4 feet, making them too heavy to change their course mid-way when they wander too close to power lines.

## Topic 06. THE INDIAN ANTARCTIC BILL

### *Importance for Prelims: Environment*

The Union government on Friday introduced the Indian Antarctic Bill, 2022, that aims to put down a set of rules to regulate a range of activities on territories in Antarctica where India has set up research stations.

### **What is the Objective of the Bill?**

- To provide a harmonious policy framework for India's Antarctic activities through a well-established legal mechanism, facilitate activities of the Indian Antarctic programme, as well as management of Antarctic tourism and sustainable development of fisheries.

### **The Provisions of the bill:**

- **Regulate Visiting:** The bill has listed strict guidelines and a system of permits, which will be issued by a government-appointed committee, without which any expedition or individual will not be allowed to enter Antarctica.
- **Protecting Mineral Resources:** The Bill further prohibits drilling, dredging, excavation or assortment of mineral resources or even doing something to recognize wherever such mineral deposits occur.
- The only exception is for scientific research with a permit.
- **Protecting Native Plants:** There will be strict prohibition on damaging native plants, flying or landing helicopters or operating vessels that could disturb birds and seals, using firearms that could disturb the birds and animals, remove soil or any biological material native to Antarctica, engage in any activity that could adversely change the habitat of birds and animals, or harm them.
- **Prohibition on introducing Birds not Native to Antarctica:** Introduction of animals, birds, plants or microscopic organisms that aren't native to Antarctica are also prohibited.



- Violators can face imprisonment as well as penalties.

**Provisions for Indian Tour Operators:** The Bill also provides for Indian tour operators to be able to operate in Antarctic continent after acquiring a allow.

- **There are 40 permanent research stations in Antarctica of which two – Maitri and Bharati — are Indian.**

### **What is the Need of Such Law?**

- India had been a signatory to the Antarctic continent accord since 1983 which encumbered india to specify a set of laws governing parts of the continent where it had its research bases.
- The Treaty made it mandatory for the 54 signatory countries to specify laws governing territories on which their stations are located.
- India is also signatory to treaties such as the Convention on the Conservation of Antarctic Marine Living Resources and the Commission for Conservation of Antarctic Marine Living Resources.
- Both the conventions enjoin India to help preserve the pristine nature of the continent.

### **What is the history of the Antarctic Treaty?**

- The Antarctic accord came into force on june 23, 1961 once ratification by the twelve countries then active in Antarctic science.
- The accord covers the area south of 60°S latitude. Its key objectives are to demilitarise Antarctic continent, to establish it as a zone freed from nuclear tests and therefore the disposal of radioactive material, and to confirm that it's used for peaceful purposes only; to promote;
- International scientific cooperation in Antarctic continent and to set aside disputes over territorial sovereignty.
- Of the fifty four signatory countries, twenty nine have ‘consultative’ status that provides them vote rights.

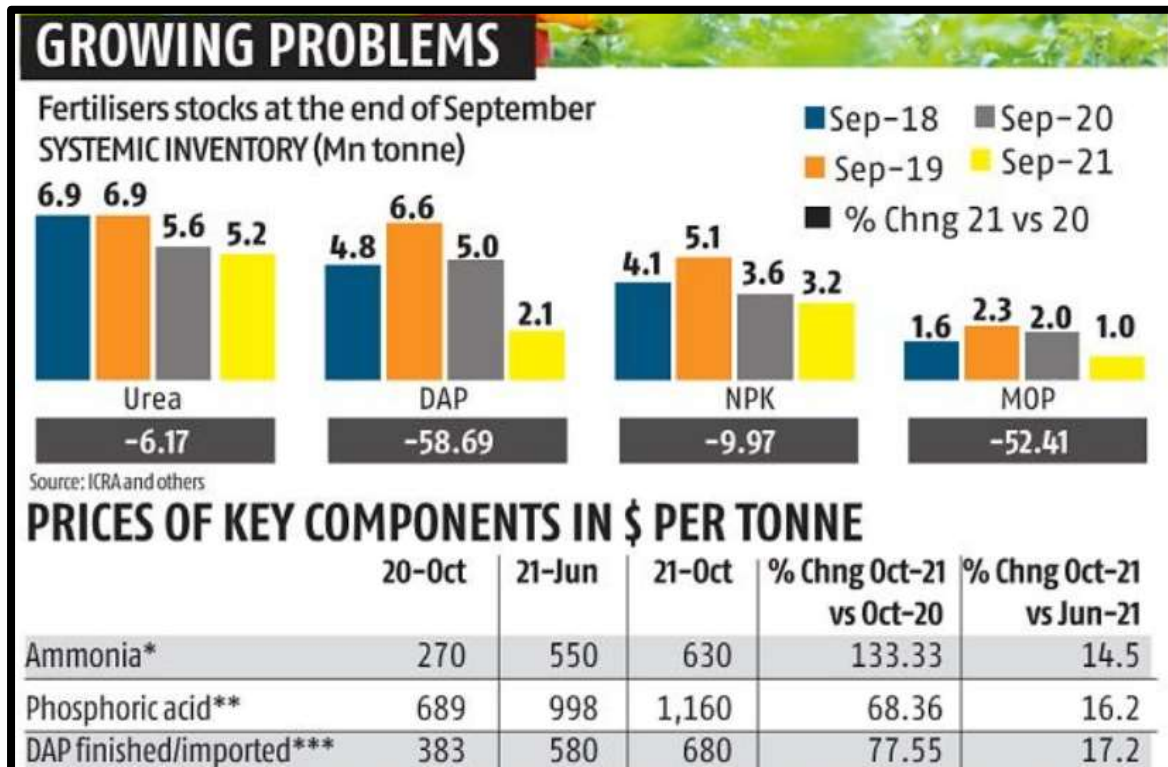
- The Treaty parties meet each year at the Antarctic Treaty Consultative Meeting.
- they have adopted over three hundred recommendations and negotiated separate international agreements.
- These, together with the original Treaty, provide the rules which govern activities in the Antarctic.
- Collectively they are known as the Antarctic Treaty System (ATS).

### **What research does India conduct at Antarctica?**

- India has organised 37 expeditions to Antarctica.
- The major thrust areas of the Indian Antarctic Programme are climate processes and links to global climate change, environmental processes and conservation and polar technology.
- The operational expenditure of the Antarctic expedition is ₹90-110 crore annually depending on the projects and services.

## Topic 07. FERTILIZER SUBSIDY

*Importance for Prelims: Economy*



Elevated global commodities prices are jacking up subsidy expenditure on fertilizers.

- Farmers within the country continue to be insulated from the relentless rise in world prices of urea and natural gas.
- Another sharp hike in the subsidy would amount to an unraveling of the ‘decontrol’ of the two soil nutrients announced more than a decade ago.
- As India meets nearly half of its DAP requirement via imports (mainly from West Asia and Jordan) while the domestic MoP demand is met solely through imports (from Belarus, Canada and Jordan, etc.).
- Absent in the increase of subsidy, domestic producers of DAP may have to increase its retail prices sharply

### Types of fertilizers:

- Primary fertilizers includes Nitrogen, Phosphorus, Potassium Nitrogenous – Urea Phosphatic – Di-ammonium Phosphate Potassic – Muriate of

Potash (MoP) fertilizers.

- Secondary fertilizers embrace calcium, Mg and Sulphur.
- Some micronutrients embrace – zinc, Iron, Boron, Chloride etc.

### **Subsidy Subsidy on Urea:**

- The Centre pays subsidy on urea to fertilizer manufacturers on the basis of cost of production at each plant and the units are required to sell the fertilizer at the government-set Maximum Retail Price (MRP).
- Farmers pay a fixed price of Rs 242 per bag (45 kg) which covers about 20% of cost of production, the balance is provided by the government as subsidy to fertilizer units.
- Subsidy on Non-Urea Fertilizers: Retail prices of phosphatic and potassic (P&K) fertilizers, including DAP and Mop were ‘decontrolled’ ( or fixed by the companies) in 2010 with the introduction of a ‘fixed-subsidy’ regime as a section of NBS mechanism..
- The Centre, however, pays a flat per-tonne subsidy on these nutrients to ensure they are priced at “reasonable levels”.

### **Examples of non-urea fertilizers:**

- Di-Ammonium Phosphate (DAP), Muriate of Potash (MOP).
- The Nutrient Based Subsidy (NBS) Programme for Fertilizers was initiated in the year 2010.
- Under the scheme, a fixed amount of subsidy decided on an annual basis is provided on each grade of subsidized Phosphatic and Potassic (P&K) fertilizers, except for Urea, based on the nutrient content present in them.
- Apart from this, fertilizers which are fortified with secondary and micronutrients like molybdenum (Mo) and Zn are given extra subsidy.
- The scheme is administered by the Department of Fertilizers under the Ministry of Chemicals & Fertilizers.

- The subsidy on Phosphatic and Potassic (P&K) fertilizers is announced by the Government on an annual basis for each nutrient on a per kg basis.
- These rates are determined taking into account the international and domestic prices of P&K fertilizers, exchange rate, inventory level in the country etc.
- NBS policy intends to increase the consumption of P&K fertilizers so that optimum balance (N:P:K= 4:2:1 ) of NPK fertilization is achieved.

**Other reform:**

- The Government has introduced the Direct Benefit Transfer (DBT) system in Fertilizers from October 2016 and the Pan-India Roll out has been completed by March, 2018.
- Under the fertilizer DBT system, 100% subsidy on various fertilizer grades is released to the fertilizer companies on the basis of actual sales made by the retailers to the beneficiaries.
- Sale of all sponsored fertilizers to farmers/buyers is made through purpose of Sale (PoS) devices installed at each retail merchant shop and also the beneficiaries are known through Aadhaar Card, KCC, voter identity card etc.

## Topic 08. BILL ON DELHI MUNICIPAL CORPORATIONS

### *Importance for Prelims: Polity*

The Rajya Sabha on Tuesday passed the Delhi Municipal Corporation (Amendment) Bill, 2022, which is aimed at unifying the three municipal corporations. Features of Bill: The Bill seeks to amend the Delhi Municipal Corporation Act, 1957 passed by Parliament.

- The Act was amended in 2011 by Delhi Legislative Assembly to trifurcate the erstwhile Municipal Corporation of Delhi into:
  1. North Delhi Municipal Corporation,
  2. South Delhi Municipal Corporation, and
  3. East Delhi Municipal Corporation.
  4. The Bill seeks to unify the three corporations.
- **Unification of Municipal Corporations in Delhi:** The Bill replaces the 3 municipal companies under the Act with one Corporation named the Municipal Corporation of Delhi.
- **Powers of the Delhi government:** The Act as amended in 2011 empowers the Delhi government to decide various matters under the Act.
- **These include:**
  1. total number of seats of councillors and number of seats reserved for members of the Scheduled Castes,
  2. division of the area of corporations into zones and wards,
  3. delimitation of wards,
  4. matters such as salary and allowances, and leave of absence of the Commissioner,
  5. sanctioning of consolidation of loans by a corporation, and
  6. sanctioning suits for compensation against the Commissioner for loss or waste or misapplication of Municipal Fund or property.
- The Bill instead empowers the central government to decide these

matters.

- **Number of councillors:** The Act provides that the number of seats within the 3 firms taken along shouldn't be over 272.
- The Bill states that the total range of seats within the new Corporation shouldn't be over 250.
- **Removal of Director of Local Bodies:** The Act provides for a Director of Local Bodies to assist the Delhi government and discharge certain functions which include:
  1. coordinating between Corporations,
  2. framing recruitment Rules for various posts, and
  3. coordinating the collecting and sharing of toll tax collected by the respective Corporations.
- The Bill omits the provision for a Director of Local Bodies.
- **Special officer to be appointed by the central government:-** The Bill provides that the central government might appoint a Special Officer to exercise powers of the Corporation till the primary meeting of the Corporation is held when the commencement of the Bill.
- **E-governance system for citizens:** The Bill adds that obligatory functions of the new Corporation will include establishing an e-governance system for citizen services on anytime-anywhere basis for better, accountable, and transparent administration.
- **Conditions of service for sweepers:** The Act provides that a sweeper employed for doing house scavenging of a building would be required to give a reasonable cause or a 14 day notice before discontinuing his service.
- The Bill seeks to omit this provision.
- **Rationale for the bill:** Trifurcation has resulted in uneven territorial division and revenue generation ability Led to Cooperation being unable

to pay salaries and retirement benefits Robust set-up for synergised and strategic coming up with and best use of resources



## Topic 09. BILL IN LOK SABHA TO BAN WEAPON OF MASS

### DESTRUCTION FUNDING

#### *Importance for Prelims: Polity*

External Affairs Minister introduced a Bill in the Lok Sabha that seeks to ban funding of weapons of mass destruction (WMD) About the Bill Bill seeks to insert a new Section 12A within the existing law that states that “no person shall finance any activity which is prohibited below this Act, or below the UN (Security Council) Act, 1947 or any other relevant Act for the time being in force, or by an order issued under any such Act, in relation to weapons of mass destruction and their delivery systems”.

- Bill would give the government powers to “freeze, seize or attach funds or other financial assets owned by such person; or held by or on behalf of, or at the direction of, such person; or derived or generated from the funds or different assets owned or controlled, directly or indirectly, by such person”.
- It proposes to “prohibit a person from making funds, monetary assets or economic resources or connected services accessible for the benefit of persons associated with any activity that is prohibited under this Act.”
- **Rationale:** The existing Act (Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005) does not cover the financial aspect of WMD delivery systems and inclusion of new provisions was essential to meet India’s international obligations United Nations Security Council’s targeted financial sanctions and the recommendations of the Financial Action Task Force have mandated against financing of the proliferation of weapons of mass destruction and their delivery systems.
- The earlier law of 2005 regarding WMDs and their Delivery Systems (Prohibition of Unlawful Activities) only banned their manufacture.

Weapon of mass destruction A weapon of mass destruction(WMD) is a nuclear, radiological, chemical, biological, or any other weapon that can kill and bring significant harm to numerous individuals or cause great damage to artificial structures (e.g., buildings), natural structures (e.g., mountains), or the biosphere.

- Originally coined in reference to aerial bombing with chemical explosives during World War II, it has later come to refer to large scale weaponry of warfare-related technologies, such as chemical, biological, radiological, or nuclear warfare.

## Topic 10. SATELLITE PHONES

*Importance for Prelims: Science & Tech*



There is revived interest in satellite communication deployments, with Starlink, operated by SpaceX, and OneWeb, promoted by Bharti global, vying to enter the Indian marketplace for giving satellite broadband connectivity to every corner of the country.

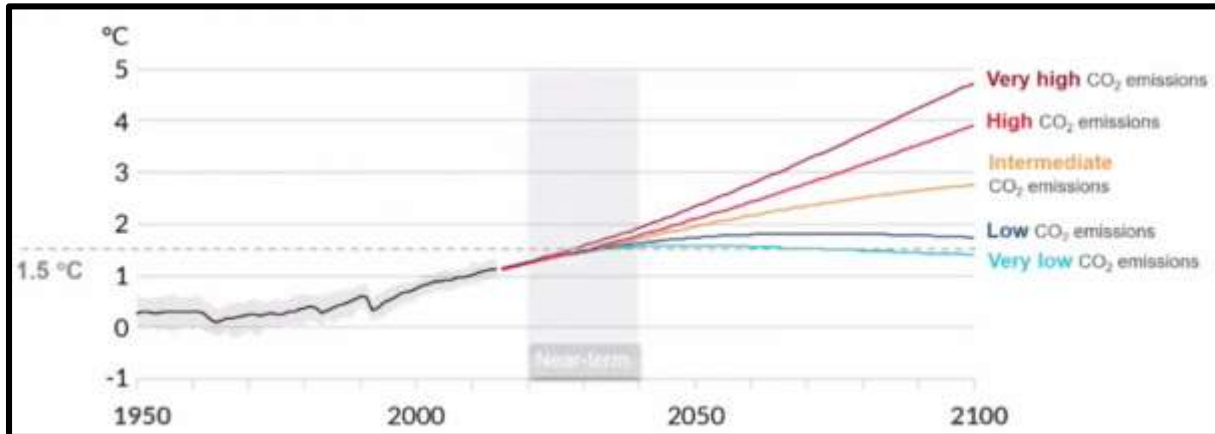
- A satellite phone may be a variety of mobile phone that connects to different phones or the telephone network by radio through orbiting satellites rather than terrestrial cell sites, as cellphones do.
- SAT phones rely on a network of satellites for communication.
- They are rarely affected by violent storms and, depending upon their system architecture, work virtually anywhere.
- The advantage of a smatphone is that its use is not limited to areas covered by cell towers; it can be used in most or all geographic locations

on the Earth's surface.

- They are capable of receiving and making calls anywhere in the world, even in the remotest parts be it the Himalayas or an uninhabited island in the Pacific.
- Traditional SAT phone buyers are government and public safety agencies, energy companies, shippers, and search and rescue organisations.
- However, an increasing number of private individuals are buying SAT phones as a backup against losing their ability to communicate with the world. The concept of a satellite phone is not new.
- In fact, the first satellite phone was launched by Motorola in 1989.
- **Difference between Satellite Phone and Cell Phone:** Satellite Phone Cellular Phone Satellite phones do not rely on towers, but instead transmit signals via satellites orbiting the earth.
- e.g Low Earth Orbit Cellular phones transmit via land-based towers.
- The fact that satellite signals are transmitted far above the earth and do not rely on towers is what makes them useful in remote areas.
- It would be not possible to position mobile phone towers everywhere to make sure continuous signals — as an example, within the middle of the ocean or within the remote wilderness.
- Satellite phones are designed specifically for telephonic communications, meaning that most allow you to make and receive calls  
When it comes to functionality, cell phones do have a distinct advantage over satellite phones.
- They provide with with wider range of functions.
- Satellite phones are more expensive Cellular phones are cheaper.

## Topic 11. THE U.N. CLIMATE REPORT'S EMISSIONS PATHWAYS – DECODED

*Importance for Prelims: Environment*



The U.N. climate science panel report free on Monday lays out many ways for greenhouse gas emissions that might limit global climate change or, instead, see it spiral out of control.

- The United Nations' climate science body, the Intergovernmental Panel on Climate Change (IPCC) published the third instalment of its Sixth Assessment Report (AR6) April 4, 2022.
- The report prepared by the IPCC Working Group III (WG-III) focuses on the mitigation of climate change, ie, the solutions necessary to halt global warming.

### **Six takeaways from the SPM titled the Summary for Policymakers:**

1. greenhouse gas (GHG) emissions were fifty four per cent higher in 2019 than they were in 1990, however growth is slowing.
2. Least developed countries emitted only 3.3 per cent of global emissions in 2019.
3. . Pledges to the Paris Agreement are insufficient, emissions should fall forty three per cent by 2030 compared to 2019.
4. abundant and reasonable solutions exist across sectors together with energy, buildings, and transport, yet as individual behavioral changes.

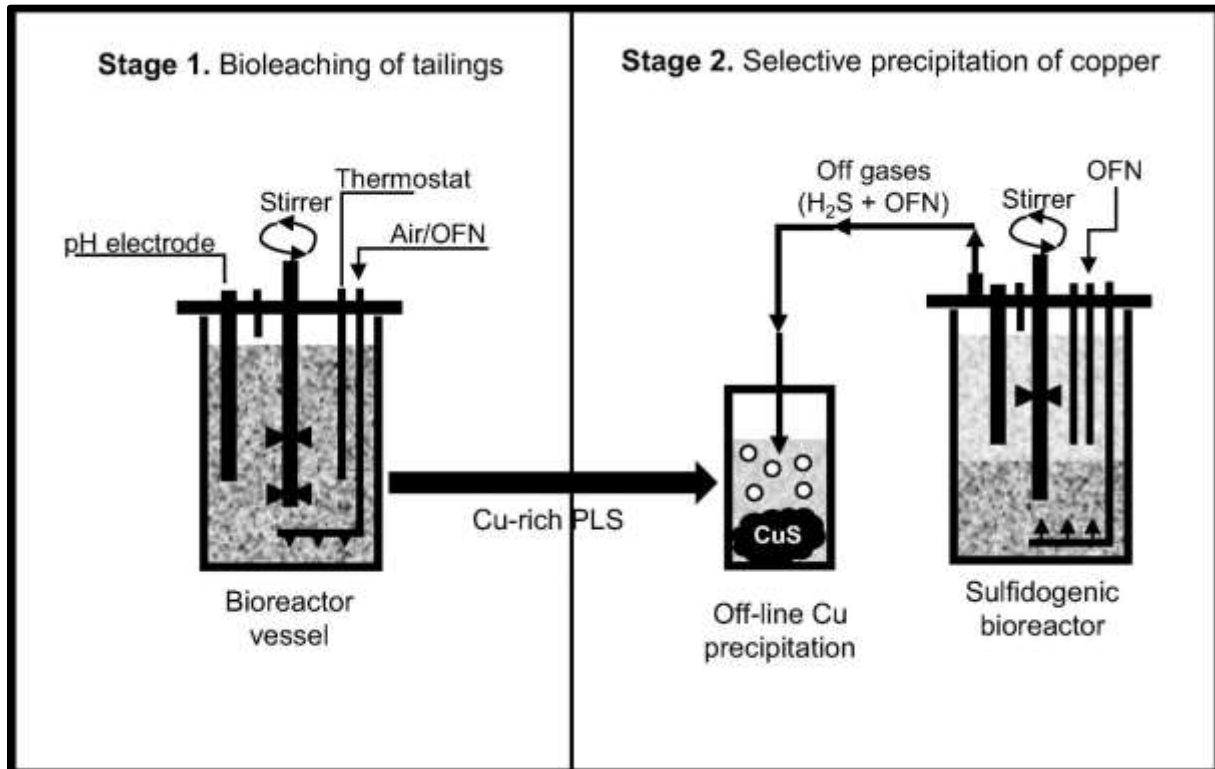
5. The impact on GDP would be negligible and the long-term benefits of cutting emissions immediately would outweigh the initial costs.
  6. Finance falls short, especially in developing countries, but there is sufficient money in the world to close this gap.
- **The pathways for mitigating Climate change: MOST OPTIMISTIC** Only two categories of pathways – dubbed “C1” and “C2” in the report – could keep the world to its 2015 Paris Agreement goal of limiting warming to within 1.5 degrees Celsius of preindustrial temperatures.
  - The world would need to provide huge in renewable energy and build dramatic cuts in greenhouse gas emissions during this decade, as well as a vast reduce in use of coal, oil and gas.
  - Some carbon dioxide (CO<sub>2</sub>) would also need to be removed from the atmosphere through increasing global forest cover as well as with nascent technologies such as direct air capture.
  - These pathways would see emissions peak by 2025, and net-zero CO<sub>2</sub> emissions by 2060.
  - **MORE FEASIBLE** More-realistic “C3” and “C4” pathways could restrict warming to 2° C – but only if governments quickly enact and expand their current national climate plans.
  - These paths envision net-zero for CO<sub>2</sub> by 2085, but some could fail to reach net-zero for all greenhouse gas emissions in this century.
  - **CURRENT TRACK** “C5” to “C7” pathways describe doing little beyond what’s planned as of today, and would see the average global temperature rise of 2.1° C to 3.5° C by 2100, and continue rising within the next century.
  - These mirror what national climate policies as of 2020 would achieve if not strengthened by 2030, with the world warming by about 3.2° C.
  - **WORST CASE** In the worst case scenarios, described as “C8” pathways,

the world warms more than 4° C beyond preindustrial temperatures.

- Emissions increase dramatically as current climate policies are reversed and low-carbon technologies like renewable energy sources and electric vehicles square measure rolled back.

## Topic 12. BIOMINING

### *Importance for Prelims: Environment*



Urban native bodies need a comprehensive policy for recycle of reclaimed land.

- The Union Ministry of Housing and urban Affairs recognised that the unlined dumpsites in India are making varied irreversible environmental hazards.
- **The major sources of pollution are:** Puddles of leachate flowing through the adjacent area and reaching the water table Long-term issues of greenhouse gas emissions Surface water and groundwater pollution Dumpsite surface fires Limitations on urban development that make this mode of disposal unmanageable The Centre has earmarked Rs 1,41,600 crore under its flagship Swachh Bharat Mission 2.0 (SBM 2.0), with a goal of achieving “garbage-free cities”.
- The focus of the mission is on remediation of all legacy dumpsites in the country by biomining.

### **What is Biomining?**



- Biomining is mineral processing with microbes.
- Biomining is the process of using microorganisms (microbes) to extract metals of economic interest from rock ores or mine waste.
- Biomining techniques may be used to clean up sites that are contaminated with metals..
- Valuable metals are commonly bound up in solid minerals.
- Some microbes can oxidize those metals, allowing them to dissolve in water.
- This is the basic process behind most biomining, which is used for metals that can be more easily recovered when dissolved than from the solid rocks.
- A different biomining technique, for metals which are not dissolved by the microbes, uses microbes to break down the surrounding minerals, making it easier to recover the metal of interest directly from the remaining rock.

### **What metals are currently biomined?**

- Most current biomining operations target valuable metals like copper, uranium, nickel, and gold that are commonly found in sulfidic (sulfur-bearing) Minerals are especially good at oxidizing sulfidic minerals, converting metals like iron and copper into forms that may dissolve a lot of simply.
- Other metals, like gold, are not directly dissolved by this microbial process, but are made more accessible to traditional mining techniques because the minerals surrounding these metals are dissolved and removed by microbial processes.
- When the metal of interest is directly dissolved, the biomining process is called “bioleaching,” and when the metal of interest is made more accessible or “enriched” in the material left behind, it is called

“biooxidation.”

### What processes are used to biomine?

- **Heap leaching:** freshly mined material is moved directly into heaps that are then bioleached.
- **Dump leaching:** low-value ore or waste rock is placed in a sealed pit and then bioleached to remove more of the valuable metals from the waste pile.
- **Agitated leaching:** crushed rocks are placed into a large vat that is shaken to distribute the microbes and material evenly and speed up the bioleaching process.
- Leaching times vary from days to months, making this process slower than conventional mineral extraction techniques.
- Dump and heap leach are the oldest and most established biomining techniques, however the employment of agitated leach is changing into a lot of common for minerals that are resistant to leaching, including some copper sulfides like chalcopyrite.

### What are the environmental risks of biomining ?

- The release of the microbes themselves into the local environment are considered to be relatively small.
- The greatest environmental risks are related to leakage and treatment of the acidic, metal-rich solution created by the microbes.
- This risk can be managed by ensuring that biomining is conducted under controlled conditions with proper sealing and waste management protocols.

### How common is biomining ?

- Biomining is presently atiny low a part of the overall mining business.
- worldwide, 10-15% of copper is extracted using bioleaching.
- Biomining is also important in the gold industry, where roughly 5% of

global gold is produced using biooxidation.

## Topic 13. RELATION OF BOP WITH THE EXCHANGE RATE

### *Importance for Prelims: Economy*

Exchange rate and BOP India's BoP is a ledger of its transactions with the rest of the world.

- It shows how much money went out of the country and how much money came into the country through international transactions.
- **These transactions could be:** Trade (export or import) of goods (such as cars, gadgets, or raw materials) or services (such as an Indian company selling computer software to someone in the in the U.S.A. country or an American firm providing banking services to some Indians).
- Investments — such as an Indian buying some land in the US or an American firm investing in the Indian stock exchanges — and Exchange of loans and aids between Indian and different countries of the globe.
- The relationship between balance of payments and exchange rates under a floating rate exchange system will be driven by the supply and demand for the country's currency and all transactions taking place with other countries.
- Suppose there's deficit in balance of payments-It means that money outflows are bigger than the money inflows because of net negative international transactions.
- Example-Let initial exchange rate be Rs. 40 = \$1.
- An increase in demand for India's exportables means an increase in the demand for Indian rupee relative to the demand of the United States \$ relative to the supply of the Indian rupee relative to the supply of the US\$.
- Consequently, the dollar depreciates while the Indian rupee appreciates.
- Suppose there is deficit in balance of payments-It means money outflows are greater than the money inflows due to the net negative international

transactions.

- Example-Let initial exchange rate be Rs. 40 = \$1.
- An increase in demand for India's importables means an increase in the demand for the US\$ relative to the demand of the Indian rupee and decrease in the supply of the US \$ relative to the supply of the Indian rupee.
- Consequently, the dollar appreciates while the Indian rupee depreciates.
- **BOP always balances in accounting sense:** The BOP figures are published in a single column with positive (credit) and negative (debit) signs.
- Since payments facet of the account enumerates all the uses that are created of the full foreign buying power acquired by this country in a given amount, and since the receipts of the accounts enumerate all the sources from that foreign buying power is acquired by a similar country within the same amount, the 2 sides should balance.
- The entries in the account ought to, therefore, add up to zero.

**In reality, total receipts may diverge from total payments because of:**

- (i) the difference in the timing between the two sides of the balance; and
  - (ii) the difficulty of collecting accurate trade information;
  - (iii) a modification within the exchange rates, etc.
- Because of such measurement problems, resources are made to 'balancing items' that intend to eliminate errors in measurement.
  - The purpose of incorporating this item in the BOP account is to adjust the difference between the sums of the credit and the sums of the debit items the BOP accounts so they add up to zero by construction..
  - Hence the proposition 'the BOP always balances'.
  - It is a truism.
  - The only way to balance the BoP is for a few authority to take these

excess dollars out of the equation.

- In this book-keeping sense, BOP always balances.
- Example-The net result of a current account deficit (of \$ 26.6 billion) and a capital account surplus (of \$ 90.1 billion) is that a total of 63.5 billion US dollars have entered the Indian economy — and the BoP accounts — during April and December 2021.
- The only way to balance the BoP is for some authority to take these excess dollars out of the equation.
- That authority is the RBI and it takes out these dollars and keeps it with itself as the forex reserves.
- RBI management of exchange rate through forex exchange In March 1992, Liberalised Exchange Rate Management System (LERMS) involving the dual exchange rate was instituted.
- A unified single market-determined exchange rate system based on the demand for and supply of foreign exchange replaced the LERMS effective March 1, 1993.
- The Reserve Bank's exchange rate policy focuses on ensuring orderly conditions in the foreign exchange market.
- For this purpose, it closely monitors the developments in the financial markets at home and abroad.
- When necessary, it intervenes in the market by buying or selling foreign currencies.
- The market operations are undertaken either directly or through public sector banks.
- If RBI wishes to prop up rupee value, then it can sell dollars and when it needs to bring down rupee value, it can buy dollars.
- In addition to the traditional instruments like forward and swap contracts, the Reserve Bank has facilitated increased availability of derivative

instruments in the foreign exchange market.

- it's allowed trading in Rupee-foreign currency swaps, foreign currency-Rupee choices, cross-currency choices, interest rate swaps and currency swaps, forward rate agreements and currency futures.
- The central bank can also influence the value of the rupee by way of monetary policy.
- RBI can tweak the repo rate (the rate at which RBI lends to banks) and the liquidity ratio (the portion of money banks are required to invest in government bonds) to control rupee.
- RBI will raise the repo rate, that results in an increase in interest rates, bond yields and return on debt papers, drawing more investor cash to chase higher returns if the same is low in other markets.
- On the other hand, higher interest rates stem money circulation in the economy, leaving more money in the hands of the RBI to manage the currency demand supply situation.
- The Reserve Bank's exchange rate policy focuses on ensuring orderly conditions in the foreign exchange market.
- For this purpose, it closely monitors the developments in the financial markets at home and abroad .
- RBI will raise the repo rate, that results in an increase in interest rates, bond yields and return on debt papers, drawing more investor cash to chase higher returns.
- Consider the various steps taken by the RBI to prevent depreciation of Indian rupee
  1. Selling of forex
  2. Buying of forex
  3. Sterilization
  4. Currency swap agreement

5. Rise in repo rate



## Topic 14. THE INDIA-AUSTRALIA FTA

*Importance for Prelims: Economy*



### India-Australia FTA

- The India-Australia FTA, officially called the Australia-India Economic Cooperation and Trade Agreement, is the first trade agreement signed by India with a developed economy after more than a decade.
- The Agreement encompasses cooperation across the whole gamut of bilateral economic and industrial relations between the 2 friendly countries, and covers areas like:
  1. Trade in Goods Rules of Origin Trade in Services Technical Barriers to Trade (TBT)
  2. Sanitary and Phytosanitary
  3. (SPS) measures Dispute Settlement Movement of Natural Persons.
- Telecom Customs Procedures Pharmaceutical products, and Cooperation in other Areas.
- ECTA provides for an institutional mechanism to encourage and improve trade between the two countries.

- The ECTA between India and Australia covers the majority of the tariff lines dealt in by India and Australia respectively..
- Australia will provide zero-duty market access for 96.4 per cent value of Indian exports (98 per cent of tariff lines) on the first day of implementation of the agreement.
- Tariffs on the remaining 113 tariff lines, amounting to 3.6 per cent of India's exports, will be phased out in five years.
- India will also eliminate tariffs on more than 85 per cent of the Australian goods exports immediately, rising to almost 91 per cent in over 10 years.
- Under the agreement, Indian graduates from STEM (Science, Technology, Engineering and Mathematics) are granted extended post-study work visas.
- Australia will also set up a programme to grant visas to young Indians looking to pursue working holidays in Australia.
- **The exclusion list:** India has managed to completely shield its dairy sector from any tariff reduction under the FTA while excluding most sensitive agriculture items such as chickpea, walnut, pistachio nut, wheat, rice, bajra, apple, sunflowers seed oil and a sugar.
- Other items where no concessions have been extended include silver, platinum, jewellery, iron ore, and most medical devices.
- **Types of Trade Agreements Free Trade Agreement (FTA):** A free trade agreement is an agreement in which two or more countries agree to provide preferential trade terms, tariff concession etc.
- To the partner country.
- India has negotiated FTA with many countries e.g Sri Lanka and numerous trading blocs as well e.g. ASEAN.
- **Preferential Trade Agreement (PTA):** In this type of agreement, two or more partners give preferential right of entry to certain products.

- This is done by reducing duties on an agreed number of tariff lines.
- Tariffs may even be reduced to zero for some products even in a PTA
- . India signed a PTA with Afghanistan.
- **Comprehensive Economic Partnership Agreement (CEPA):** Partnership agreement or cooperation agreement are more comprehensive than an FTA.
- CEPA covers negotiation on the trade in services and investment, and other areas of economic partnership.
- India has signed CEPAs with South Korea and Japan.
- **Comprehensive Economic Cooperation Agreement (CECA):** CECA generally covers negotiation on trade tariff and TRQ (Tariff Rate Quotas) rates only.
- It is not as comprehensive as CEPA.
- India has signed CECA with Malaysia.

## Topic 15. EXTERNAL EXPOSURE AND RISK

### *Importance for Prelims: Economy*

Global inflation, the launch of a monetary tightening cycle in the US with increased interest rates, depreciating exchange rates and the fallout of the war in Ukraine are forcing many countries to borrow their way out of balance of payments difficulties.

### **India's position India seems less affected by these circumstances due to:**

1. Low external debt-India's external debt-to-GDP ratio stood at 20 per cent at the end of 2021.
2. Large foreign exchange reserves– at \$632 billion seem ample to handle any contingency.
3. **Issue:** Rise in external commercial borrowing Easy money policies in the developed countries-given the differentials in interest rates between global and domestic markets, Indian financial and non-financial firms borrowed money abroad to finance their expansion at home as well as to substitute high-cost domestic debt with cheaper foreign debt.
4. Decline in the share of long-term debt in the total from 95 per cent at the end of September 1999 to 82 per cent at the end of December 2021 Concentrated debt exposure- volumes of debt in the hands of a few large corporations and corporate groups.
5. Non revenue generating debt-Much of this debt has been incurred to invest in activities that are not export oriented and are unlikely to yield revenues denominated in dollars.
6. The rupee depreciation vis-à-vis the dollar-likely to increase the value of external debt Higher Portfolio investors- still account for a large share of India's "borrowed" reserves.
7. These investors are prone to exit rather rapidly in herd-like fashion when conditions turn for the worse.

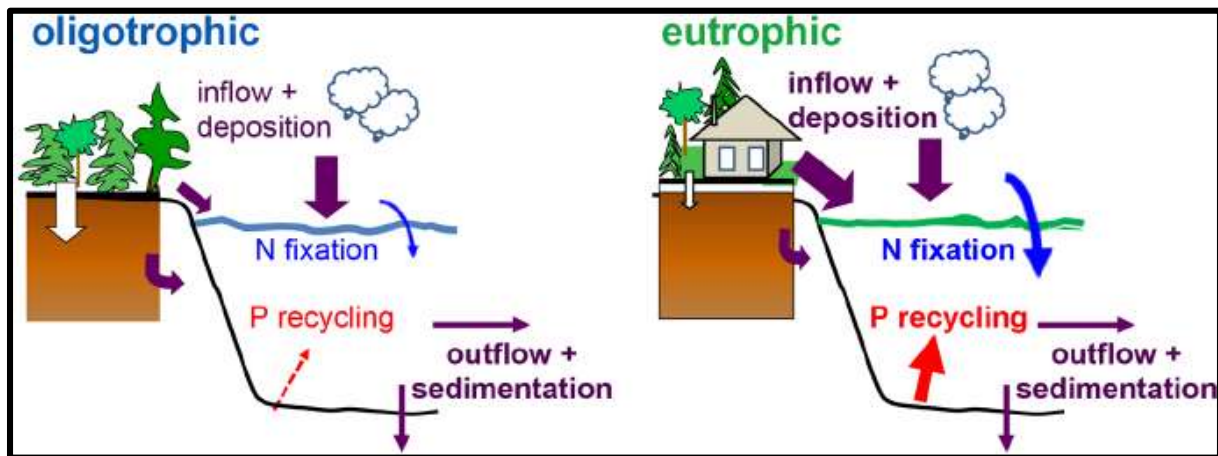
8. Factors making the external debt portfolio stable and also sustainable.
9. Low reliance on external borrowing and issuance of majority of securities at fixed coupon.
10. External borrowing from official sources which are of long term and concessional in nature
- 11.. Low issuance of short-term bonds with a view to elongate the maturity profile.
- 12.Low debt to GDP ratio and low external debt to total debt ratio High Indian currency denominated external debt If the Interest Rate-Growth Differential (IRGD), the difference between the interest rate and growth rate, becomes negative, the governments need not worry about deficits since the growth would take care of the interest payment obligations.
- 13.This would ensure the sustainability of public debts.
14. Diversified debt exposure Higher forex reserves External Commercial Borrowings (ECB) are debts taken on by an eligible entity in India from external sources for strictly commercial purposes, i.e. from any recognised entity outside India.
- 15.The Department of Economic Affairs of the Ministry of Finance, in collaboration with the Reserve Bank of India, supervises and regulates ECB guidelines and regulations.
  - There are currently two methods for using ECB to raise funds: the permission route and the automatic approach.
  - **Automatic route:** The government has created a number of eligibility requirements for people who want to use the automatic method of receiving money.
  - These rules govern, among other things, amounts, industries, and the final use of funds.
  - **Permission route:** The approval method, on the other hand, necessitates

explicit authorization from the RBI or the government before obtaining funds through External Commercial Borrowing.

- The RBI has specified the borrowing structure in circulars and formal guidelines.
- The RBI has established the categories of “eligible entities” among borrowers and “recognised non-residents” among potential lenders to ensure that the inflow remains clean.

## Topic 16. OLIGOTROPHIC ECOSYSTEM

*Importance for Prelims: Environment*



Cave ecosystems are understudied in India. Caves have a microclimate of their own.

- The cave-dwelling fauna might be more sensitive to minor changes and global climate change might exacerbate local extinctions, as per scientists.
- **What are Oligotrophic Ecosystems:** Oligotrophic environments are those that offer little to sustain life.
- These environments include deep oceanic sediments, caves, glacial and polar ice, deep subsurface soil, aquifers, ocean waters, and leached soils. An oligotroph is an organism that can live in an environment that offers very low levels of nutrients.
- **Caves as Oligotrophic Ecosystem:** Caves form an Oligotrophic ecosystem, which has no direct energy source – there is no sunlight or vegetation.
- Their primary source of energy comes in through either a bird's or bat's guano or droppings.
- Invertebrates in the cave were exclusively dependent on the swiftlet guano or droppings.

- With caves having a microclimate of their own, he states that the cave-dwelling fauna could be even more sensitive to minor changes and climate change could exacerbate local extinctions.
- Oligotrophic caves are characterized by very limited sources of organic material and simplified trophic structure due to their predominant isolation from surface ecosystems.
- In nutrient-poor caves heterotrophic bacterium dominate among variety of chemoautotrophs that gain energy from inorganic chemicals through chemosynthesis and fix inorganic carbon.
- Phosphorus is usually considered to be the most limiting nutrient in temperate oligotrophic ecosystems.
- The majority of aquatic ecosystems in regions sensitive to acidification are oligotrophic, since their watersheds are on thin soils with granitic or gneiss bedrock.
- **Difference between Oligotrophic & Eutrophic Lakes:** Oligotrophic Eutrophic These are lakes with fewer nutrients, low productivity, and clear water These are lakes with high nutrients, Biological oxygen demand is relatively high daylight penetration is high daylight penetration is low Less eutrophication method High eutrophication method Less phosphate and nitrates High level of phosphate and nitrates High level of phosphate and nitrates They have no odour.
- Presence of odour due to high decomposition rate.



## Topic 17. OPIUM POPPY CULTIVATION

*Importance for Prelims: Agriculture*



Taliban order ban on poppy cultivation.

- The taliban declared on Sunday a ban on the cultivation of narcotics in Afghanistan, the world's biggest opium producer.
- The cultivation of poppy has been strictly prohibited across the country.
- Afghanistan is the world's largest producer of opium, according to the United Nations Office on Drugs and Crime (UNODC). Its opium harvest accounts for over eightieth percent of the world's provide.
- In 2018 the UNODC estimated opium production contributed up to 11% of the country's economy.
- **Opium Poppy:** Opium poppy (*Papaver somniferous*) plant is the source of opium gum which contains several indispensable alkaloids such as morphine, codeine and the baine.
- Morphine is the best analgesic in the world.
- In case of extreme and excruciating pain such as that of terminally ill

cancer patients, nothing alleviates the suffering except morphine.

- Codeine is commonly used in manufacture of cough syrups.
- **Uses:** Opium is unique in its therapeutic value and is indispensable in the medical world.
- It also finds use in Homeopathy and Ayurveda or Unani systems of indigenous medicines.
- The opium which is used as Analgesics, Anti-Tussive, Anti spasmodic and as a source of edible seed-oil, acts as a medicinal herb.
- **Opium Cultivation In India:** After independence, the control over cultivation and manufacture of opium became responsibility of the Central Government with effect from April, 1950.
- At present the Narcotics Commissioner along with the subordinates exercises all powers and performs all functions relating to superintendence of the cultivation of the opium poppy and production of opium.
- The Commissioner derives this power from the Narcotic Drugs & Psychotropic Substances Act 1985 and Narcotic Drugs & Psychotropic Substances Rules, 1985.
- License for manufacture of certain types of narcotic drugs and psychotropic substances as well as permits for export and import of narcotic drugs, psychotropic and controlled substances are issued with the approval and permission of the Narcotics Commissioner.
- The Government of India announces the licensing policy for cultivation of opium poppy every year, prescribing the minimum qualifying yield for issue of or renewal of licence, maximum area that can be cultivated by an individual cultivator, the maximum benefit that can be allowed to a cultivator for damage due to natural causes, etc.
- The opium poppy can be cultivated only in such tracts as are notified by

the Government.

- At present these tracts are confined to three States, viz.
- Madhya Pradesh, Rajasthan and Uttar Pradesh.
- Mandsaur district of Madhya Pradesh and Chittorgarh and Jhalawar Districts of Rajasthan constitute about 80% of the total area cultivated.
- India is one of the few countries internationally permitted (by the United Nations Office on Drugs and Crime ) to cultivate opium poppy for export.

## Topic 18. NFC TECHNOLOGY FOR INSTANT PAYMENTS

*Importance for Prelims: Science & Tech*



Google Pay has recently launched a brand new feature in India, ‘Tap to pay money for UPI’, together with Pine Labs.

- The feature makes use of near Field Communication (NFC) technology.
- it'll permit users with UPI accounts configured on Google Pay to form payments just by tapping their NFC-enabled android smartphones on any Pine Labs android POS terminal.
- It will allow users with UPI accounts configured on Google Pay to make payments just by tapping their NFC-enabled Android smartphones on any Pine Labs Android POS terminal.
- Till now, Tap to Pay was only available for cards.
- The process is much faster compared to scanning a QR code or entering the UPI-linked mobile number which has been the conventional way till now.

**Are other companies using NFC tech for payments using smartphones?**

- In Feb this year, Apple introduced tap to Pay on the iPhone.
- It will allow merchants across the U.S. to use their iPhones to just accept Apple Pay, contactless credit and debit cards, and different digital wallets through a tap to their iPhone while not the requirement for any further additional hardware or payment terminal.

### **What is NFC and how does it work?**

- NFC could be a short-range wireless connectivity technology that permits NFC-enabled devices to speak with one another and transfer info quickly and simply with a single touch — whether or not to pay bills, exchange business cards, download coupons, or share a document
- Both devices should contain NFC chips, as transactions take place within a very short distance.
- NFC transmits data through electromagnetic radio fields, to enable communication between two devices.
- Both devices must contain NFC chips, as transactions take place within a very short distance.
- NFC-enabled devices must be either physically touching or within a few centimetres from each other for data transfer to occur.

### **What are the other applications of NFC technology?**

- NFC tech has a wide range of applications besides driving payment services like Google Wallet and Apple Pay.
- It is used in contactless banking cards to perform money transactions or to generate contact-less tickets for public transport.
- Contactless cards and readers use NFC in several applications from securing networks and buildings to monitoring inventory and sales, preventing auto theft, keeping tabs on library books, and running unmanned toll booths, according to investopedia.
- It also has associate degree application in health care, to observe patient

stats through NFC-enabled wristbands.

- NFC is used in wireless charging too.

### **How safe is this technology?**

- NFC technology is designed for an operation between devices among a number of centimetres from one another.
- This makes it troublesome for attackers to record the communication between the devices compared to different wireless technologies that have a working distance of many metres.
- The security level of the NFC communication is by default higher compared to other wireless communication protocols.

### **When did NFC tech start? In 2004,**

- consumer electronics companies, Nokia, Philips and Sony together formed the NFC Forum, which outlined the architecture for NFC technology to create powerful new consumer-driven products.
- Nokia released the first NFC-enabled phone in 2007.

## **Topic 19. LAF**

### ***Importance for Prelims: Economy***

- Liquidity adjustment facility (LAF), also referred to as the liquidity corridor, primarily indicates the difference between the repo rate and therefore the reverse repo rate.
- It was introduced in year 2000 following recommendation of Narasimham Committee Report on Banking Reforms.
- Before that in April 1999, an Interim LAF was introduced to provide a ceiling.
- Under the scheme, RBI conducts auctions to absorb (through reverse repo auctions) and inject (through repo auctions) liquidity into the financial system.
- The funds from the Facility are expected to be used by the banks for their day-to-day mismatches in liquidity.
- Presently the repo and reverse repo at 4% and 3.35% respectively.

## Topic 20. SIKKIM TAX FREE

### *Importance for Prelims: Economy*

The market share of Sikkim-based traders on the Multi Commodity Exchange (MCX) in Mumbai climbed to 5.5 per cent from nil just over a couple of years ago as compared to some of the densely populated States that are seeing much less volume despite having a larger number of traders mainly due to the commodity market speculation by Sikkim resident traders and other states which use sikkim traders as proxy.

- **Cause of rise in commodity market speculation in Sikkim:-** Sikkim, an erstwhile kingdom, was merged into India on condition that its old laws and special status, as envisaged in Article 371(f) of the Constitution, remain intact.
- Thus, the State followed its own Sikkim taxation Manual 1948, that governed the tax laws.
- Under it, no resident was supposed to pay taxes to the Centre. However, in 2008 Sikkim's tax laws were repealed which led to following measures by the Centre.
- Exemption from mandatory requirement of PAN-for investments in the securities market, commodity market and mutual funds, provided they gave a proof of residency, led to a decline in tax filings.
- Section 10 (26AAA) by the Centre– Under this, the income accrued to the Sikkimese individuals in the State or by way of dividend or interest on securities from elsewhere was exempt from tax.
- Multi Commodity Exchange (MCX) as the name suggests is an exchange like BSE and NSE where commodities are traded.
- It is under the ownership of Ministry of Finance, Government of India.
- It is a platform for commodity traders that facilitate online trading, settlement and clearing of commodity futures transactions, thereby



providing a platform for risk management (hedging).

- It was established in November 2003 under the regulatory framework of FMC (Forward Markets Commission).
- In 2016, the FMC was merged with SEBI and MCX as an exchange that falls under the regulatory purview of SEBI.
- It is India's largest commodity derivatives exchange and located in Mumbai.
- MCX offers options trading in gold and futures trading in non-ferrous metals, bullion, energy, and a number of agricultural commodities (mentha oil, cardamom, crude palm oil, cotton, and others).
- Commodities traded include – Metal – Aluminium, Copper, Lead, Nickel, Zinc Bullion – Gold, Gold Mini, Gold Guinea, Gold Petal, Gold Petal ( New Delhi), Gold Global, Silver, Silver Mini, Silver Micro, Silver 1000.
- Agro Commodities – Cardamom, Cotton, Crude Palm Oil, Kapas, Mentha Oil, Castor seed, RBD Palm Olein, Black Pepper.
- Energy – Crude Oil, Natural Gas. National Commodity & Derivatives Exchange Limited (NCDEX): National Commodity & Derivatives Exchange Limited (NCDEX/ the Exchange) is an Indian-based agricultural product exchange with a large market share in the agricultural products segment.
- It is composed of a Board of Directors with experience in the agricultural products market.
- The NCDEX main objective is to provide an exchange platform for market players seeking to trade in agricultural products.
- It is a public limited company that was incorporated on 23 April 2003 under the Companies Act, 1956, beginning operations on 15 December 2003 and regulated by the SEBI.
- **Future and Option Transactions:** Derivatives are products whose value

is derived from the value of one or more basic variables, which are called Underlying Assets.

- The underlying asset can be equity, index, foreign exchange (Forex), commodity or any other asset.
- Futures and options represent two of the most common forms of “Derivatives”.
- A Futures Contract is an agreement between buyer and seller to buy or sell an asset at a certain time in the future at a certain price.
- The contract has to be honored by both parties on the due date.
- This is used by traders or speculators who are engaged in arbitrage.
- Arbitrage means that the trader shall buy the stock at a low price today as he wants to sell it on a future date at a high price.
- E.g: If a farmer is producing corn and it takes 1 year for his produce to develop.
- Currently the price of the corn is Rs. 100 per kg and after 1 year he wants to sell it but he doesn't know the price of the corn.
- So he enters into a forward contract or a futures contract with a buyer to sell at say “Rs. 110 per kg” after 1 year.
- Now the buyer has decided this rate based on some mathematical calculations which could involve current rate of the commodity, probable future date, risk free returns etc.
- So he is willing to take the risk and buy corn at Rs. 110 per kg from the producer.
- He might make a profit or loss but this cannot be predicted but the producer makes a decent profit.
- The report on India's Demographic Dividend released by industry body CII argues that the rise in India's working age population is necessary but not sufficient for it to sustain the economic growth.

- An option is a contract that gives the buyer the Right but not the obligation to buy a commodity at a specified price at a specified future date.
- If a farmer has 50 kg of corn and wants to sell it for Rs. 50000.
- Know a trader is interested to buy however he doesn't have the money currently..
- Therefore he enters into an “option contract” with the farmer.
- This contract states that the buyer shall have the Option to purchase the Corn at a specified price at a future date say 3 months.
- The buyer shall have to pay the price of the Option which is say Rs. 1000.
- Now if the client returns once three months and also the value of the corn is Rs. five lakh however he will still go for Rs. 50000 as he has bought a contract and needs to exercise his Right to buy.
- He thus makes a profit.
- However if the Corn market crashes and also the turn out is price only Rs. 5000 now he will exercise his Right to not buy the Corn from the farmer and also the possibility contract expires.
- Thus he loses only the Rs. 1000 he invested in the Option.

## **Topic 21. LOOK OUT NOTICE**

### ***Importance for Prelims:*** Polity

Journalist Rana Ayyub's was stopped in Mumbai on Tuesday evening based on a look out circular (LOC) issued by the The Directorate of Enforcement, that is investigating her in a case of alleged money laundering.

### **What is it, when is it issued?**

- An LOC is issued to make sure that a personal who is absconding or wished by law enforcement agencies isn't ready to leave the country..
- it's principally used at immigration checkpoints at international airports and seaports by the immigration branch.
- In certain cases, the police can approach a court asking for the restriction of a person's movement outside the country, when that person is a suspect and there is an apprehension that they'll not join the investigation at a later stage.
- The subject of an LOC will challenge the circular and get relief from a court.

### **Who can issue an LOC?**

- An LOC can be initiated by a large number of authorised officers, including an officer not below the rank of deputy secretary, an officer not below the rank of joint secretary in the state government, a district magistrate or superintendent of police, designated officers of various law enforcing and security agencies, a designated officer of Interpol, an officer not below the rank of additional director in the Serious Fraud Investigation Office, and the Ministry of Corporate Affairs In 2018, the government also empowered the heads of public sector banks to directly request the authorities to issue an LOC against wilful defaulters to prevent them from leaving the country.
- So now, an officer not below the rank of chairman/managing

director/chief executive of any public sector bank can make a request.

- An LOC can be modified/deleted/withdrawn by the Bureau of Immigration only on the specific request of the authorised originator on whose request the LOC was issued.

### **Does an LOC lead to arrest?**

- Not necessarily. LOCs can be of several types.
- They can seek to merely stop an individual against whom the circular has been issued from move outside the country, to prevent an individual from getting into the country, or inform the concerned investigation agencies.
- The proforma of the LOC also contains a request to detain the individual at the local police/investigation agency, which generally leads to arrest.

### **What is the difference between an LOC and Interpol notices like the Red Corner Notice?**

- While the LOC is mainly to ensure that anyone wanted by the investigating agencies does not leave or enter the country without their knowledge, a Red Corner Notice (RCN issued by the Interpol, is to confirm that an individual who has fled the country wherever he's wanted, will still be nabbed whenever he tries to enter or leave another country.
- Whenever a person with an Red Corner Notice against him approaches an airport in another country, the immigration officials there inform the country from where the request was made and detain the person.

## **Topic 22. 40 YRS AFTER TREATY, ANTARCTIC BILL INTRODUCED** **IN LS**

### ***Importance for Prelims: Geography***

Nearly forty years after India initial signed the Antarctic pact, the govt. has brought in a draft Indian Antarctic Bill-2022 to regulate and monitor activities at its analysis stations in the frozen continent. Indian Antarctic Bill, 2022.

- To provide for national measures to protect the Antarctic environment and associated ecosystems and to give effect to the Antarctic Treaty.
- To provide a harmonious policy framework for India's Antarctic activities through a well-established legal mechanism Facilitate activities of the Indian Antarctic programme.
- Including management of Antarctic tourism and sustainable development of fisheries to prohibit Indian expedition to Antarctica or carrying of certain activities.
- In Antarctica without a permit or the written authorization of another party to the protocol To provide for inspection in India by an officer designated by the Central government as an Inspector and to constitute an inspection team to carry out inspections.
- In Antarctica Key feature It will empower the government to establish a committee on Antarctic governance and environmental protection to monitor, implement and ensure compliance with the relevant international laws, emissions standards and rules of protection.
- The panel is to be headed by the secretary of the Ministry of Earth Sciences, as ex officio chairperson.
- Among different roles, he has also been the vice-president of the Scientific Committee on Antarctic analysis of the International Science Council since 2018.
- Antarctic Treaty The Antarctic Treaty was signed between 12 countries

in Washington on 1 December 1959 for making the Antarctic Continent a demilitarized zone to be preserved for scientific research only.

- The twelve original signatories are Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, south africa, the Union of Soviet Socialist Republics, the united kingdom and the U.S.A..
- It entered into force in 1961 and has since been acceded by many other nations. Members – Currently it has 54 parties.
- India became a member of this treaty in 1983.
- Headquarters – Buenos Aires, Argentina.
- **Major Provisions:** Promoting the freedom of scientific research. Countries can use the continent only for peaceful purposes.
- Prohibition of military activities, nuclear tests and the disposal of radioactive waste.
- Neutralising territorial sovereignty, this means a limit was placed on creating any new claim or enlargement of an existing claim.
- It place a freeze on any disputes between claimants over their territories on the continent.
- Research stations in Antarctic Dakshin Gangotri was the first Indian scientific research base station established in Antarctica, as a part of the Indian Antarctic Program.
- It's weakened and become just a provide base.
- Maitri Maitri is India's second permanent research station in Antarctica.
- It was built and finished in Maitri is situated on the rocky mountainous region called Schirmacher Oasis.
- India also built a freshwater lake around Maitri known as Lake Priyadarshini.
- Bharti Bharti, India's latest research station operation since 2012.

- It has been constructed to help researchers work in safety despite the harsh weather.
- It is India's first committed research facility and is located about 3000 km east of Maitri.



## **Topic 23. J FORM**

### ***Importance for Prelims: Agriculture***

The Punjab Mandi Board has set to send a ‘digital form J’ on the WhatsApp number of farmers from this Rabi acquisition season, Hence, several farmers ended up having no record of their income once selling their crops.

- What is the ‘J form’ ‘J form’ is the sale receipt of a farmer’s agricultural produce in mandis (grain market).
- These forms were earlier issued manually by arthiyas (commission agents) because in Punjab, a majority of farmers sell their crops through such agents only.
- Also, this form is an income proof for a farmer who sells his crop.

### **How will its digitisation help the farmers?**

- Before digitisation of the J form, several arthiyas had the habit of keeping these forms with themselves, instead of providing it to the farmers, which was their right. Hence, many farmers ended up having no record of their income after selling their crops.
- however by getting digitised J form, farmers can currently have a transparent record of the crop sold and financial gain received in lieu of that and it'll save their time similarly, ensuring that they do not need to run to arthiyas to get copies of their sale.
- These forms are going to be delivered directly on a farmer’s WhatsApp number instantly once a sale is confirmed on the system by the arthiyas and consumers, who are primarily government procurement agencies.
- If any farmer changes his/her WhatsApp number, then they'll see the J forms in their digilocker, which are legally at par with original physical documents under Rule 9A of the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016 notified on February 8, 2017.

### **How does the move help farmers?**

- The 'J form' may be used for raising finance from financial institutions, IT waivers, grant claims, farmer's insurance.
- get admission for their wards in educational institutes abroad.
- For example, 'J form', which is considered as an authenticate document of income in the Canadian embassy.
- The move can stop the stealing of grains by some arhtiyas.

### **How will the government benefit?**

- The government will have a proper record of the land under cultivation for both the wheat and paddy crops in the state as well as an idea of their average per acre yield.
- Eventually other crops can also be brought under the J form even if the government does not procure the other crops.
- People who do sale/purchase within the mandis for the other crops may be asked to log their purchases through the J form to possess accuracy of total land and production.
- The system can to a large extent check the sale of crops from other states in the mandis of Punjab.
- This will give them an idea on how much quantity of a crop was grownup within the state.
- In case of unusual procurements, the government will be able to identify accounts from which the fraudulent transaction was made.

## **Topic 24. HYDROELECTRIC POWER PROJECTS IN MANIPUR**

### ***Importance for Prelims: Environment***

Manipur's push for the dams threatens local ecology and communities.

- In 1983, a hydropower project called the Ithai barrage on Manipur (or Imphal) river that uses Loktak as the reservoir came up.
- As of March 2022, the Loktak multipurpose project is Manipur's only functional hydropower project, with an installed capability of 105 megawatts (MW) of electricity, and is Manipur's main supply of power.
- Flood has become a regular phenomenon each in the villages upstream and downstream of the Ithai barrage.
- Since then the demand for decommissioning the Ithai barrage has continued to grow.
- In 2017, the then Manipur governor Najma Heptullah had said at a programme that she was "working very hard for the removal of Ithai barrage" due to its adverse economic and ecological impact.
- However In 2020, following the union government's drive, the Manipur state government decided to push for hydropower projects.
- It said it estimated the state's hydropower potential at more than 2,000 MW and identified 29 new projects with a total proposed installed capacity of 300 MW.
- These embrace projects with a capability as low as 0.44 MW and 0.78 MW to 49.5 MW..
- Five of them are above 25 MW of proposed/tentative installed capacity, meaning large dams – Barak 4 HE Project (49.5 MW), Irang 3 HE Project (46.50 MW), Ijai HE Project (28.70 MW), Imphal HE Project (28.3 MW) and Barak 3 HE Project (26 MW).
- The state planned to urge the elaborate project reports for these twenty nine comes to be developed by 2022.

- **Loktak Lake:** It is the largest freshwater lake in Northeast India and is famous for the phumdis floating over it.
- Phumdis are the heterogeneous mass of vegetation, soil and organic matter at various stages of decomposition.
- KeibulLamjao National Park is also one of the Phumdis in the lake.
- It is the only floating national park in the world and is the last natural refuge of endangered Sangai deer.
- Loktak lake is a wetland of international importance under the Ramsar Convention.
- It has been listed under the Montreux Record since 1993 (the other wetland in Montreux is the Keoladeo National Park, Rajasthan).
- **Hydropower Scenario in India:** India is 5th globally for installed hydroelectric power capacity.
- As of 31 March 2020, India's installed utility-scale hydroelectric capacity was 46,000 MW or 12.3% of its total utility power generation capacity.
- Hydropower potential is found in the main in northern and north-eastern regions.
- Arunachal Pradesh has the largest unexploited hydropower potential of 47 GW, followed by Uttarakhand with 12 GW.
- Unexploited potential is mainly along three river systems – the Indus, Ganges and Brahmaputra.
- The mountainous States of India in the main Arunachal Pradesh, Himachal Pradesh, Jammu & Kashmir and Uttarakhand, and constitute around 1/2 this potential.
- Other potential States are Maharashtra, Chhattisgarh, Karnataka and Kerala.
- India also imports surplus hydroelectric power from Bhutan.

- The public sector accounts for 92.5% of India's hydroelectric power production.

## **Topic 25. INDIA'S FIRST STEEL SLAG ROAD**

### ***Importance for Prelims: Environment***

Surat has become the primary town within the country to get a processed steel slag (industrial waste) road built as a part of a joint-venture project by the Council of Scientific and Industrial Research (CSIR), Central Road Research Institute (CRRI), Union Ministry of Steel, government think-tank NITI Ayog, and ArcelorMittal-Nippon Steel (AM/NS), at Hazira.

### **What is the project all about?**

- The six-lane public road is a kilometre-long stretch in Hazira industries, that also houses the AM/NS plant.
- The construction price of the processed steel slag road is thirty per cent cheaper than roads built from natural aggregates.
- The road is now being used by heavy-duty vehicles of multinationals located in the industrial estate on the outskirts of Surat.

### **Benefits of using steel slag:**

- The construction cost of the processed steel slag road is 30 per cent cheaper than roads built from natural aggregates.
- The thickness of the road is also 30 per cent lesser than normal ones, while the durability is much longer due to the utilisation of steel slag.
- This project falls underneath the initiative of the Waste to Wealth and Clean India.
- The slag has better material properties in place of the natural aggregate commonly used in road constructions According to the Indian Road Congress guidelines for construction of a heavy traffic road that's capable of taking the load of 1,000 to 1,200 trucks per day The CRRI can now prepare guidelines and specifications for the utilization of steel slag in road construction.
- This method is also expected to cut back GHG emissions and carbon

footprint in road construction activity and is in line with India's commitment to the UN sustainable Development Goal No. nine for building resilient infrastructure through inclusive and sustainable industrialization and green technologies.

- However, The lifespan of a cement or concrete road is over 30 years while that of bitumen and steel slag road is around 15 years.

### **Why has it been done at Hazira?**

- The Hazira road in Surat was chosen due to the proximity to the AM/NS steel plant and therefore the availability of heavy traffic on the road for study purposes.
- AM/NS produces around two million tons of steel slag annually which may be utilized for the development of roads.

## **Topic 26. 'POST-2020 GLOBAL BIODIVERSITY FRAMEWORK' FOR COP15**

### ***Importance for Prelims: Environment***

The 15-United Nations Geneva Biodiversity Meetings concluded March 29, 2022, with negotiators from around 164 countries working out the post-2020 Global Biodiversity Framework before CoP15, which is scheduled to be held in China in August.

- The 15th meeting of the Conference of the Parties (CoP15) to the UN Convention on Biological Diversity, to be held in Kunming, China in August 2022, was supposed take place in 2020 however was delayed due to the world pandemic.
- Before the United Nations Convention on biodiversity, Parties have agreed to another round of negotiations in Nairobi, Kenya from June 21-29, 2022.
- It has also urged Parties and invited other governments to take action to conserve and sustainably use marine and coastal biodiversity.
- Address threats and pressures on marine biodiversity and ecosystems like marine plastic litter and fishing.
- To develop a strategic review and analysis of the programme of work on island biodiversity and to review progress towards global commitments and goals for island biodiversity.
- The report also welcomed the work of the executive secretary on the compilation and synthesis of information on impacts of anthropogenic underwater noise and marine debris on marine and coastal biodiversity and means that to minimise and mitigate these impacts.
- It welcomed the efforts to implement the 'Priority Actions to Achieve Aichi Biodiversity Target 10 for Coral Reefs and Closely Associated Ecosystems' and 'Voluntary Specific Workplan on Biodiversity in Cold-



water Areas' within the scope of the convention.

- **Post-2020 Global Biodiversity Framework:** The overarching goals of the draft post 2020 framework — to protect the elements of biodiversity at all levels (genetic, species and ecosystem), sustainability and human well-being within the use of biodiversity and the fair and equitable sharing of benefits from the use of biodiversity — were reaffirmed throughout the Geneva sessions.

#### **About UNCBD:**

- The Convention on Biological Diversity (CBD), a legally binding pact to conserve biodiversity has been in force since 1993.

#### **It has 3 main objectives:**

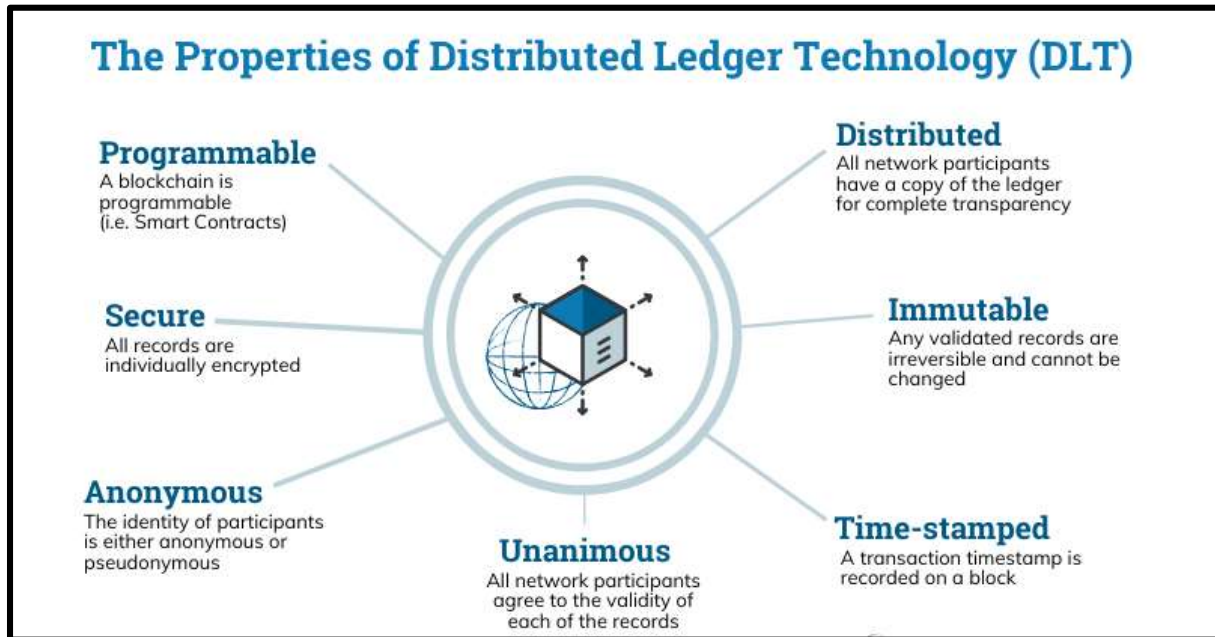
1. The conservation of biological diversity.
  2. The sustainable use of the components of biological diversity.
- The fair and equitable sharing of the advantages arising out of the utilization of genetic resources.
  - Nearly all countries have ratified it (notably, the US has signed but not ratified).
  - The CBD Secretariat is based in montreal, Canada and it operates beneath the UN environment Programme.
  - The Parties (Countries) under Convention of Biodiversity (CBD), meet at regular intervals and these meetings are called Conference of Parties (COP).
  - In 2000, a supplementary agreement to the Convention known as the Cartagena Protocol on Biosafety was adopted.
  - It came into force on 11th September 2003.
  - The Protocol seeks to protect biological diversity from the potential risks posed by living changed organisms resulting from modern biotechnology.
  - The Nagoya Protocol on Access to Genetic Resources and the Fair and

Equitable Sharing of Benefits Arising from their Utilization (ABS) was adopted in 2010 in Nagoya, Japan at COP10.

- It entered into force on 12th October 2014.
- It not only applies genetic resources that are coated by the CBD and therefore the benefits arising from its utilization..
- Along with the Nagoya Protocol on Genetic Resources, the COP-10 also adopted a ten-year framework for action by all countries to save biodiversity.
- • officially called “Strategic plan for biodiversity 2011-2020”, it provided a set of twenty ambitious yet accomplishable targets collectively called the Aichi Targets for biodiversity.
- India enacted Biological Diversity Act in 2002 for giving effect to the provisions of the CBD.

## Topic 27. BLOCKCHAIN TECHNOLOGY

*Importance for Prelims: Science & Tech*



Gadchiroli uses blockchain caste certificates to deter forgery.

- Bengaluru-based LegitDoc is powering a Maharashtra government initiative to issue 65,000 blockchain caste certificates in Gadchiroli district, which has about 70 per cent tribal population.
- The caste certificates are produced on blockchain to deter any forgery.
- LegitDoc will cryptographically commit selective details of every caste certificate from the ‘MahaOnline’ portal on the polygon POS blockchain and generate a unique QR code.
- These QR codes will consist of blockchain-proofs, which can be embedded on the certificate.
- Anyone who wants to cross-check can go to the verification portal on the district website and scan the QR code.
- The verification process takes less than ten seconds.

### **Blockchain:**

- Blockchain derives its name from the digital databases or ledgers wherever data is kept as “blocks” that are coupled together forming

“chains”.

- It offers a singular combination of permanent and tamper-evident record keeping, time period transaction transparency and auditability.
- A block is that the “current” a part of a blockchain that records some or all of the recent transactions, and once completed, goes into the blockchain as permanent database..
- Each time a block gets completed, a new block is generated.
- Blocks are linked to each other (like a chain) in correct linear, chronological order with each block containing a hash of the previous block.
- An exact copy of the blockchain is available to each of the multiple computers or users who are joined together in a network.
- Any new data added or altered via a new block is to be vetted and approved by over half the overall users.

## Topic 28. RIGHTS TO NATURE

### *Importance for Prelims: Environment*

## Nature's Rights

means recognizing that ecosystems and natural communities are not merely property that can be owned, but are entities that have an independent right to exist and flourish.

Where in the US are they officially recognized?

**2006**

TAMAQUA, PA  
became the very first place the world to recognize the Rights of Nature in law by banning sludging as a violation of the Rights of Nature

**2010**

PITTSBURGH, PA  
first major city in the US to codify the legally enforceable Rights of Nature ban on shale gas drilling and fracking

**2016**


HO-CHUNK NATION, WI  
adds Rights of Nature to their constitution

**2017**


BOULDER COUNTY, CO  
enacted first Climate Bill of Rights

PONCA NATION, OK  
recognize the Rights of Nature to ban fracking


What can YOU do to honor them?




Support farmers markets



Reduce electricity usage



Recycle



Use tap water

Chile poised to grant rights to Nature; may become 2nd such country besides Ecuador.

- On March 25, 2022, the plenary body of Chile's constitutional convention formally approved the Rights of Nature among its proposed constitutional text.
- **Two articles reflect elements of the proposals include: Article 4 on the Rights of Nature:** Nature has the right to have its existence protected and respected, to regeneration, to the maintenance and restoration of its functions and dynamic balances, which includes natural cycles, ecosystems and biodiversity.
- The State through its institutions must guarantee and promote the Rights of Nature as determined by the constitution and laws.
- **The other is Article 26 on various Earth-centred principle It reads:** These are principles for the protection of nature and the environment and

include, at minimum, the principles of progressivity, precautionary, preventive, environmental justice, intergenerational solidarity, responsibility, and fair climate action.

- Other proposals related to environment include:
- **Article 1:** Climate and ecological crisis. It is the duty of the State to adopt actions of prevention, adaptation and mitigation of risks, vulnerabilities and effects caused by the climate and ecological crisis.
- **Article 2:** Animals. Animals are subject to special protection.
- The State can protect them, recognising their sentiment and the right to live a life free from abuse.
- The state and its agencies will promote an education based on empathy and respect for animals.
- **Article 23 B:** The State protects biodiversity, having to preserve, conserve, and restore the habitat of wild native species, in such quantity and distribution that adequately sustains the viability of of their populations and ensures the conditions for both survival and non-extinction.
- **Article 33:** Environmental democracy. T
- He right of participation to inform environmental matters is recognised.
- Participation mechanisms will be determined by law.
- All people have the right to access environmental information that is in the possession or custody of the State.

## **Topic 29. PUBLIC BORROWING**

### ***Importance for Prelims: Economy***

Fiscal policy The Centre, finalised its borrowing programme for the first half of FY23, pegging the target at ₹8.45 lakh crore for this period.

- With this the borrowing plan for the first half of FY23 coming is at about 60 per cent of the overall borrowing target of ₹14.95-lakh crore for FY23, The borrowing plan, is finalised by the Government in consultation with the Reserve Bank of India (RBI) .
- Borrowing is a loan taken by the government and falls under capital receipts in the Budget document.
- Usually, the Government borrows through the issue of government securities called G-secs and Treasury Bills.
- Composition.
- Public Debt (A1+A2) A1.
- Internal Debt (a+b)
  - 1. Marketable Securities
  - 2. Non-marketable Securities
- A2.External Debt B.
- Public Account – Other Liabilities
- C. Extra-Budgetary Resources (EBRs)
- D. Total Liabilities (A+B+C) Total liabilities of the Central Government include debt contracted against the Consolidated Fund of India, technically defined as Public Debt, as well as liabilities in the Public Account.
- These liabilities include external debt (end-of-the financial year) at current exchange rate but exclude part of NSSF liabilities to the extent of States' borrowings from the NSSF and investments in public agencies out

of the NSSF, that don't finance the Central Government deficit.

- Public Debt accounted for 89.9 per cent of total liabilities, whereas Public Account Liabilities, that embrace National small Savings Fund, State Provident Funds, Reserve Funds and Deposits and other Accounts, constituted the remaining 10.1 per cent % of Debt to GDP ratio Factors making the public debt portfolio stable and also sustainable.
- low reliance on external borrowing and issuance of majority of securities at fixed coupon.
- External borrowing from official sources which are of long term and concessional in nature.
- Low issue of short-term bonds with a view to elongate the maturity profile.
- Issuance of dated securities is planned and conducted, keeping in view the debt management objective of keeping the cost of debt low, while assuming prudent levels of risk and promoting market development A vibrant secondary market provides opportunity to the investors to balance their portfolio as desired and at the same time diversify public debt.

### **What are off-budget borrowings?**

- According the budget document, “Extra fund resources (EBRs) are those financial liabilities that are raised by Public Sector Undertakings that refund of entire principal and the interest is completed from Government budget,” Such borrowings are made by state-owned corporations to fund government schemes however aren't a part of the official budget calculations.
- Thus, Off-budget borrowings are loans that are taken not by the Centre directly, but by another public institution which borrows on the directions of the central government.
- Such borrowings are used to fulfill the government's expenditure needs.



- But since the liability of the loan is not formally on the Centre, the loan is not included in the national fiscal deficit.
- This helps keep the country's fiscal deficit within acceptable limits.

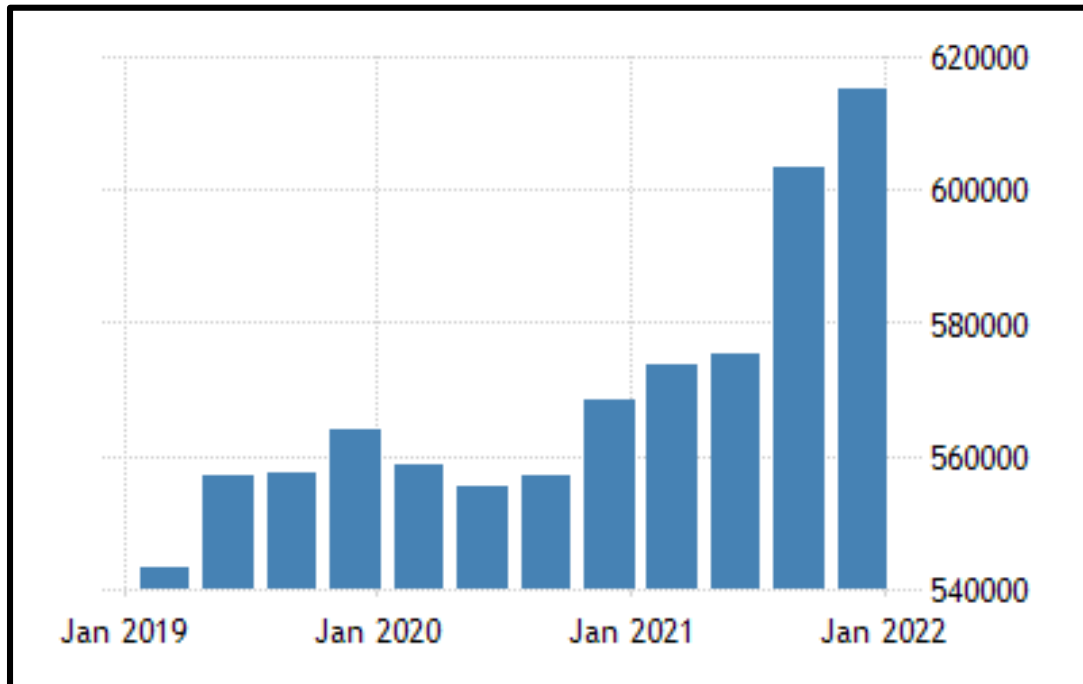
**Public debt instruments:**

- Usually, the Government borrows through the issue of government securities called Gsecs and Treasury Bills.
- Treasury bills (T-bills)-Treasury bills or T-bills are issued only by the central government of India.
- They are short-term money market instruments, which means that their maturity period is less than 1 year.
- Treasury bills are currently issued with three different maturity periods: 91 days, 182 days, and 364 days.
- The Treasury bill is commonly known as zero coupon securities as issued at a discount and are redeemed at face value on the date of maturity.
- Cash Management Bills (CMBs) -CMBs are also zero-coupon securities and are very similar to Treasury bills.
- However, the maturity period is the one major point of difference between the two types of government securities.
- Cash Management Bills (CMBs) are issued for maturity periods less than 91 days, making them an ultra-short-term investment option.
- CMBs are strategically used by the government of India to meet any temporary cash flow requirements.
- Dated G-Secs-Dated G-Secs are also among the different types of government securities in India.
- Unlike T-bills and CMBs, G-Secs are long money market instruments that provide a large range of tenures, starting from five years and going all the way up to forty years.

- These instruments come with either a fixed or a floating interest rate, also known as the coupon rate.
- The coupon rate is applied on the face value of your investment and is paid to you on a half-yearly basis as interest.
- There are around 9 different types of dated G-Secs currently issued by the government of India.
- These are listed below.
- Fixed-Rate Bonds Floating Rate Bonds Capital Indexed Bonds Inflation-Indexed Bonds Bonds with Call/Put Options Special Securities STRIPS Sovereign Gold Bonds 75% Savings (Taxable) Bonds, 2018 State Development Loans (SDLs)-As the name implies, SDLs are issued solely by the state governments of India to fund their activities and to satisfy their budgetary needs.
- These types of government securities are very similar to dated G-Secs.
- They support the same repayment methods and come with a wide range of investment tenures.
- The only difference between dated G-Secs and SDLs is that the former is issued only by the central government, whereas the latter is issued solely by the state governments of India.

## Topic 30. EXTERNAL DEBT

*Importance for Prelims: Economy*



India's external debt continues to be sustainable and prudently manageable Key Developments: India's external debt increased by \$11.5 billion sequentially in October-December 2021 and it rose by \$46.6 billion on a year-on-year basis. The percentage of the external debt to the Gross Domestic Product (GDP) declined slightly to 20 per cent as of December-end 2021 from 20.3 percent as of September-end 2021.

- The External Debt-to-GDP ratio is the ratio between the debt to the gross domestic product (GDP) of a country.
- The ratio indicates the capability of a country in repaying its external debts.
- A country with a low external debt-to-GDP ratio indicates that it's capable of manufacturing and selling merchandise and repaying its debts while not incurring more debt.
- Various economic and geopolitical factors such as recessions, interest rates, war, etc influence the debt account of a country.

- The appreciation of the USA dollar against other major currencies like the euro and yen helped limit the increase in external debt.
- The short debt, on a residual maturity basis, accounted for 43.1 % of the foreign exchange reserves as on December 31.
- (i.e., debt obligations that include long-term debt by original maturity falling due over the next twelve months and short-term debt by original maturity) As much as 52.0 per cent of the external debt was denominated in US dollars at the end of December 2021.
- Rupee debt constituted 32 per cent, while debt in yen and euro made up 5.3 per cent and 3.1 per cent respectively.
- The forex reserves cover ratio is 103 per cent (A cover ratio of 90 percent-plus is considered comfortable).
- The ratio of short debt has increased to 18.1 % from September, however remains under the pre-pandemic times industrial borrowings remained the largest chunk of the external debt, with a share of 36.8 percent.
- Non resident deposits follow with 23.1 per cent, and shortterm trade credit is the third-largest component at 18.0 per cent.
- Debt with an original maturity of up to one year rose to 18.6 percent of the total external debt from 17.4 percent as on September 30.
- While this is a small number, short-term debt on a residual maturity basis – debt that must be repaid in the next 12 months, irrespective of original maturity – rose to 44.4 percent of the total from 43.2 percent at the end of September 2021.
- **External debt:** It refers to money borrowed from a source outside the country.
- External debt has to be paid back in the currency in which it is borrowed.
- External debt will be obtained from foreign commercial banks, international monetary establishments like International Monetary Fund,

World Bank, ADB etc and from the govt of foreign nations.

- Normally these types of debts are in the form of tied loans, meaning that these have to be used for a predefined purpose as determined by a consensus of the borrower and the lender.
- Governments and corporations are eligible to raise loans from abroad. These are in the form of external commercial borrowings.
- The interest rate on foreign loans is linked to LIBOR (London Interbank Offer rate) and the actual rate will be LIBOR plus applicable spread, depending upon the credit rating of the borrower.
- Debt Profile – External debt is classified as ‘External business Borrowing’, ‘Currency Convertible Bonds’ and ‘Government Borrowings’. Composition of India’s external debt Multilateral - Multilateral institutions such as the International Development Association (IDA), International Bank for Reconstruction and Development (IBRD), Asian Development Bank (ADB) etc are regarded as multilateral creditors.
- Bilateral – nations that interact in sovereign and non-sovereign arrangements like one-to-one loan arrangements are bilateral creditors.
- India’s bilateral creditors are Japan, Germany, the United States, France, etc. International Monetary Fund –loans from IMF in form of SDR Trade Credit -It is when the loans and credits are extended for imports by overseas suppliers, banks and financial institutions to sovereign and non-sovereign entities.
- **Commercial Borrowings** -It includes borrowings from commercial banks, financial institutions, money that is raised through issuing securitized instruments such as bonds, floating rate notes (FRN), securitized borrowing of commercial banks etc.
- NRI Deposits (above one-year) Rupee Debt Total Long-Term Debt– is

debt with an original maturity of more than one year Short-term Debt– is defined as debt repayments on-demand or either with an original maturity of one year or even less.

- Composition in terms of government and non government external debt: Government Debt External Debt on Government Account under External Assistance Other Government External Debt-includes defence debt, investment in Treasury Bills/government securities by FPIs, foreign central banks and international establishments and International Monetary Fund.
- Non-government Debt Central Bank Deposit-taking Corporations, except the Central Bank Other Financial Corporations Non-financial Corporations Households and non-profit institutions serving households (NPISHs) Direct Investment: Intercompany Lending External debt sustainability:
- A country's public debt is taken into account sustainable if the govt is able to meet all its current and future payment obligations while not exceptional financial help or going into default.
- External debt sustainability can be measured based on the following parameters: Government's debt and current fiscal revenue ratio.
- The overall share of short and long-term debt in the total debt burden.
- Share of concessional debt.
- Foreign debt to exports ratio Debt to GDP ratio The share of external debt to the total debt of the country.