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THE HINDU

GS 2 : Polity, Governance, International Relations

1. India will resume the export of COVID-19 vaccine

In News : India will resume the export of COVID-19 vaccines under its 'Vaccine Maitri' programme to fulfil the commitment towards COVAX (COVID-19 Vaccines Global Access).

COVAX (COVID-19 Vaccines Global Access)

- The COVAX program is led by the vaccine alliance GAVI, WHO and the Coalition for Epidemic Preparedness Innovations (CEPI) in partnership with UNICEF, vaccine manufacturers and the World Bank, among others.
- Aim: To ensure equitable distribution of COVID-19 vaccines globally
- It is supposed to be the largest vaccine procurement and supply operation in history.
- The program wants to vaccinate roughly 20 percent of the population in the 92 Advance Market Commitment (AMC) countries, which include middle and lower-income nations that cannot afford to pay for COVID-19 vaccines.
- Countries with a Gross National Income (GNI) per capita of less than US \$4000 and some other countries eligible under the World Bank International Development Association (IDA) shall be given top priority.

What is Gavi, the Vaccine Alliance?

- It was Created in 2000.
- Gavi is an international organisation – a global Vaccine Alliance, bringing together public and private sectors with the shared goal of creating equal access to new and underused vaccines for children living in the world's poorest countries.
- Its core partners include the WHO, UNICEF, the World Bank and the Bill & Melinda Gates Foundation.

2. It's time to criminalise marital rape

Background:

Marital rape:

- **Marital rape is not a punishable offence in India.**
- According to **Exception 2 to Section 375 of the Indian Penal Code**, sexual intercourse by a man with his own wife (provided she is over the age of 18) does not amount to the offence of rape.

Recent judgments of the High Courts:

- The **Kerala High Court** held that acts of sexual perversions of a husband against his wife amounted to (mental) cruelty and was therefore a **good ground to claim divorce**.
- The **Chhattisgarh High Court**, while discharging an accused husband, held that the charge of rape framed under Section 376 of the IPC was erroneous and illegal as it was covered under Exception 2 to Section 375 and the wife was not under 18 years of age.

Details:

- The recent judgments of two High Courts on marital rape have once again **raked up debate on whether Exception 2 to Section 375 of the Indian Penal Code is constitutional or not**.
- The article argues in favour of **scrapping the exception to marital rape** provided under Section 375 of the Indian Penal Code based on the following arguments.

Violation of fundamental rights:

- Marriage in modern times is regarded as a partnership of equals. It is an association of two individuals, each of whom has separate integrity and dignity. The violation of the bodily integrity of a woman is a clear violation of her autonomy and is a violation of **Article 21 of the Constitution**.

International practice:

- Marital rape is a **criminal offence in South Africa, Australia, and Canada**, among other countries.

Committee recommendations:

- The **Justice Verma Committee report of 2013** too recommends that the exception for marital rape be removed.

Address sexual violence against women:

- The doing away with Exception 2 would **show complete non-tolerance by the state with respect to rape and sexual violence against women**.

Counter arguments:

- One line of argument has been that once marital rape is criminalised, it **may lead to filing of false charges against husbands**. Also it will be very **difficult for the police to prove such cases beyond reasonable doubt**.

Conclusion:

- A closer examination of the counter arguments shows that the first apprehension is unfounded given that there are legal provisions to deal with

false cases and also that legal remedies may be revised suitably to deal with such false cases.

- Also the difficulty of proof cannot be a criterion for not notifying **deviant behaviour such as marital rape** as an offence which amounts to a gross violation of the bodily integrity and autonomy of women.

3. Northeast Monsoon

Subdued Northeast Monsoon

Rainfall over the southern peninsular region has been deficient so far, indicating that the northeast monsoon has remained subdued this year.

Importance :

Pattern of Rainfall in India: **India receives rainfall during two seasons:**

- About 75% of the country's annual rainfall is received from the Southwest monsoon between June and September.
- The Northeast monsoon occurs during October to December, and is a comparatively small-scale monsoon, which is confined to the Southern peninsula. It is called the winter monsoon.

Northeast Monsoon and Rainfall:

- After the complete withdrawal of the Southwest monsoon from the country takes place by mid-October, the wind pattern rapidly changes from the south-westerly to the north-easterly direction.
- The period after the Southwest monsoon season, from October to December, is the peak time for cyclonic activity in the North Indian Ocean region covering the Arabian Sea and the Bay of Bengal.

The winds associated with the formation of low pressure systems, depressions, or cyclones influence this monsoon, and therefore, the rainfall.

Regions associated with Northeast Monsoon:

- The rainfall associated with the Northeast monsoon is important for Tamil Nadu, Puducherry, Karaikal, Yanam, coastal Andhra Pradesh, Kerala, north interior Karnataka, Mahe and Lakshadweep.
- Tamil Nadu records about 48% of its annual rainfall during these months, making it the key factor for undertaking agricultural activities and reservoir management in the state.

- Some South Asian countries such as Maldives, Sri Lanka and Myanmar, too, record rainfall during October to December.

Reasons for deficient rainfall this Northeast monsoon:

Prevailing La Niña conditions in the Pacific Ocean:

- La Niña conditions enhance the rainfall associated with the Southwest monsoon, but has a negative impact on rainfall associated with the Northeast monsoon.
- La Niña (Spanish for 'little girl') refers to the large-scale cooling of the ocean surface temperatures in the central and eastern equatorial Pacific Ocean, coupled with changes in the tropical atmospheric circulation, namely winds, pressure and rainfall.
- It usually has the opposite impacts on weather and climate as El Niño, which is the warm phase of the so-called El Niño Southern Oscillation (ENSO).
 - El Niño (Spanish for 'little boy') is the abnormal surface warming observed along the eastern and central regions of the Pacific Ocean (region between Peru and Papua New Guinea).
 - La Nina and El Nino are large-scale ocean phenomena which influence the global weather winds, temperature and rainfall.
 - They have the ability to trigger extreme weather events like droughts, floods, hot and cold conditions, globally.
 - Each cycle can last anywhere between 9 to 12 months, at times extendable to 18 months and re-occur after every three to five years.

Inter Tropical Convective Zone (ITCZ):

- The current position of the ITCZ has also contributed to the poor rainfall during the ongoing monsoon season.
- The ITCZ is a low-pressure belt, whose northward and southward movements along the equator determine the precipitation in the tropics.
- Currently, the ITCZ is located to the north of its normal position.

Other Important Atmospheric Circulation

Madden-Julian Oscillation (MJO): The MJO can be defined as an eastward moving 'pulse' of clouds, rainfall, winds and pressure near the equator that typically recurs every 30 to 60 days.

4. New Monsoon Forecast Model

New Monsoon Forecast Model

- The India Meteorological Department (IMD) may introduce new monsoon models this year to better forecast changes in rainfall.
- The monsoon that concluded in 2020 was unique, in that with monsoon 2019, it was only the third time in a century that India saw back-to-back years of above normal rainfall. In both years — and monsoon 2019 was a 25-year high — the IMD failed to forecast the magnitude of the excess and only indicated that the monsoon would be “above normal”.
- D.S. Pai, who heads the IMD’s Climate Research Services, Pune, said in his talk there were three different models that could be tested this year. Two of them were dynamical models and one a statistical model.

Computer simulation

- In the former, the climate on any particular day is simulated on supercomputers and meteorologists observe the changing daily output. The other is the traditional statistical model that equates relationships of physical parameters, such as for instance sea surface temperatures, snowfall, the temperature of landmass etc, with the actual observed rainfall in the past.
- The **three models** under consideration are:
 1. 12 global circulation models (dynamical) whose outputs would be combined into a single one;
 2. a model that gauges rainfall based on the sea surface temperature in the tropics (developed by Professor Sumant Nigam, University of Maryland, U.S.) and
 3. the statistical model based on climate variables observed during the pre-monsoon. All of them are ‘ensembles’ meaning smaller models are combined to arrive at an average value.
- M. Mohapatra, Director General, IMD, told The Hindu that the traditional statistical model would continue to be used this year. “However, we will continue to have discussions and will decide later on what new approach can be added.”
- It is an oceanic-atmospheric phenomenon which affects weather activities across the globe. It brings major fluctuation in tropical weather on weekly to monthly timescales.
- 2. The MJO can be defined as an eastward moving 'pulse' of clouds, rainfall, winds and pressure near the equator that typically recurs every 30 to 60 days.

- 3. It's a traversing phenomenon and is most prominent over the Indian and Pacific Oceans.

Phases of MJO (Madden Julian Oscillation)

The MJO consists of two parts or phases. Strong MJO activity often dissects the planet into halves. One half within the enhanced convective phase and the other half in the suppressed convective phase.

1. Enhanced rainfall (or convective) phase:

Winds at the surface converge, and the air is pushed up throughout the atmosphere. At the top of the atmosphere, the winds reverse (i.e., diverge). Such rising air motion in the atmosphere tends to increase condensation and rainfall.

2. Suppressed rainfall phase:

- Winds converge at the top of the atmosphere, forcing air to sink and, later, to diverge at the surface. As air sinks from high altitudes, it warms and dries, which suppresses rainfall.
- It is this entire dipole structure, that moves west to east with time in the Tropics, causing more cloudiness, rainfall, and even storminess in the enhanced convective phase, and more sunshine and dryness in the suppressed convective phase.

How Does MJO Affect Indian Monsoon?

- The Indian Ocean Dipole (IOD), El Nino and MJO are all oceanic and atmospheric phenomena, which affect weather on a large scale. IOD only pertains to the Indian Ocean, but the other two affect weather on a global scale-up to the mid-latitudes.
- IOD and El Nino remain over their respective positions, while MJO is a traversing phenomenon.
- The journey of MJO goes through eight phases.
- When it is over the Indian Ocean during the Monsoon season, it brings good rainfall over the Indian subcontinent.
- On the other hand, when it witnesses a longer cycle and stays over the Pacific Ocean, MJO brings bad news for the Indian Monsoon.
- It is linked with enhanced and suppressed rainfall activity in the tropics and is very important for the Indian monsoonal rainfall.

Periodicity of MJO:

- If it is nearly 30 days then it brings good rainfall during the Monsoon season.

- If it is above 40 days then MJO doesn't give good showers and could even lead to a dry Monsoon.
- Shorter the cycle of MJO, better the Indian Monsoon. Simply because it then visits the Indian Ocean more often during the four-month-long period.
- Presence of MJO over the Pacific Ocean along with an El Nino is detrimental for Monsoon rains.

5. Done and dusted: On NRC process

In News : Foreigners' Tribunal (FT) in Karimganj district of southern Assam, while removing the ambiguity around a man's citizenship, has pronounced that there is no doubt that the NRC published on August 31, 2019, is the final one.

National Register of Citizens (NRC)

- At its core, **the NRC is an official record of those who are legal Indian citizens.** It includes demographic information about all those individuals who qualify as citizens of India as per **the Citizenship Act, 1955.**
- The register was first prepared after the 1951 Census of India and since then it has not been updated until recently.
- So far, **such a database has only been maintained for the state of Assam.**
- In 2014, the SC ordered the updation of the NRC in Assam.
- The main purpose for updating of the NRC in Assam was the identification of the illegal immigrants in the state who had migrated to Assam from Bangladesh during the 1971 war with Pakistan.
- One of the basic criteria for identification was that the names of the family members of the applicant should be present in the NRC prepared in 1951 or in the electoral rolls up till March 24, 1971.
- The entire updation process was executed by the Assam's administrative machinery.
- In the run-up to the publication of the final document, Assam and the Centre had **petitioned the Supreme Court for re-verification of a sample** of names included in the draft NRC – 20% in the border districts and 10% elsewhere – but this was dismissed after the State NRC Coordinator, said re-verification of 27% names had been already done.
- Final NRC was published on 31st Aug 2019 (Supreme Court deadline). The list left out over 1.9 million from a list of around 33 million applicants. The citizenship of those who have been left out would be determined at the Foreigner's Tribunals

Challenges post publication of NRC

- **Political Opposition:** NRC publication on 31st Aug 2019 has annoyed political parties across the ideological divide, with some alleging it victimised document-

less Bengali Hindus and indigenous Assamese people and others alleging that it targeted the State's Bengali-origin Muslims.

- **Re-verification demand:** In May 2021, the State NRC authority has filed a petition in Supreme Court seeking re-verification of the August 31, 2019 list, citing inclusion and exclusion errors.
 - Assam Chief Minister has on record stated that the State government wants 20% re-verification in the districts bordering Bangladesh and 10% in others.
 - Another repetition of the NRC even on smaller scale, whether led by the judiciary or the executive, would rely on the same administrative set-up.
- **Slow post-publication progress:** On the execution side, the issuance of rejection slips to those left out of the NRC has not begun, a necessary step to file appeals in the Foreigner Tribunals.
- **Legal Approval awaiting:** Also, a Registrar General of India notification has not conferred the stamp of legality on the NRC yet.

Conclusion

Providing legal stamp on NRC and kick-starting the appeals process is perhaps the most prudent path ahead.

GS 3 : Economy, Science and Technology, Environment

6. The endgame

In News:

- The Cabinet has cleared a Rs. 30,600 crore **guarantee programme for securities to be issued by the National Asset Reconstruction Company Limited (NARCL)**.

Challenges:

- While the initiative is a step in the right direction, the article expresses doubts on whether it would be effective in addressing the challenges being faced by the lending financial institution.
 - Notably, banks have already provided for the existing bad loans. The initiative may **not help jump-start credit flows unless accompanied by the recapitalisation of banks** which finds no mention under the new initiative.
 - Also, the fact that the Finance Ministry hopes that many of the **stressed assets would realise more value than NARCL's acquisition cost seems unreasonable** given the fact that the existing private ARCs with their expertise have failed to extract value from these bad loans.

- There are also concerns that the **sovereign guarantee might give rise to moral hazard among the lending institutions** which might become lackadaisical about final realisation value.

7. 'Climate change is a key driver of financial risk'

In News:

Reserve Bank of India Deputy Governor has said that climate change and its impact is increasingly being acknowledged as a key risk driver for the financial system by governments, regulators and financial firms.

Details:

Climate risks can impact the financial sector through two broad channels:

Physical Risks:

- Physical risks which mean economic costs and financial losses resulting from the increasing severity and frequency of extreme weather events and long-term climate change.
 - Physical risk drivers are directly observable and these events inflict direct economic costs and financial losses on financial firms as well as cause a longer-term but gradual shift in climate.
 - Acute physical risks arise from extreme climate events such as heatwaves, landslides, floods, wildfires and storms.
 - Chronic physical risks are longer-term events as they arise from gradual shifts of weather patterns.

Transition Risks:

- Transition risks which arise as the world tries to adjust towards a low-carbon economy.
 - Transition risks essentially reflect as compliance cost when one embarks upon adjustment to a low-carbon economy.
 - This would include changes in government policies, market and customer sentiments and the necessity for technological up-gradation.
 - Mandated climate-related mitigation plans could cause a decrease in financial valuation or a downgrade of credit ratings for businesses which are violating climate norms.
 - Such plans can also cause a shift in market power.

Therefore, it is important for the financial firms to understand these risk drivers which are likely to affect them.

8. Plant Discoveries 2020

- The Botanical Survey of India, in its new publication Plant Discoveries 2020 has added 267 new taxa/ species to the country's flora.
- The 267 new discoveries include 119 angiosperms; 3 pteridophytes; 5 bryophytes, 44 lichens; 57 fungi, 21 algae and 18 microbes.
- In 2020, 202 new plant species were discovered across the country and 65 new records were added.
- With these new discoveries the latest estimate of plant diversity in India stands at 54,733 taxa including 21,849 angiosperms, 82 gymnosperms, 1,310 pteridophytes, 2,791 bryophytes, 2,961 lichens, 15,504 fungi, 8,979 algae and 1,257 microbes.
- "The year 2020 will remain marked in global history for the outbreak of the COVID-19 pandemic, with the havoc it caused and still continues in 2021. This overwhelming addition of 267 plant taxa to Indian flora, which were discovered as either new species or as new distributional records for India, is nowhere less than the average number of new plant discoveries made from India during the past one-and-half decade," said A.A. Mao, Director of the Botanical Survey of India.
- Among the new discoveries this year, nine new species of balsam (*Impatiens*) and one species of wild banana (*Musa pradhanii*) were discovered from Darjeeling and one species each of wild jamun (*Syzygium anamalaianum*) from Coimbatore in Tamil Nadu and fern (*Selaginella odishana*) were recorded from Kandhamal in Odisha. There are 14 new macro and 31 new micro fungi species recorded from various parts of India.
- An assessment of the geographical distribution of these newly discovered plants reveals that 22% of the discoveries were made from the Western Ghats followed by the Western Himalayas (15%), the Eastern Himalayas (14%) and the Northeast ranges (12%). The west coast contributed 10% while the east coast contributed (9%) in total discoveries; the Eastern Ghats and south Deccan contribute 4% each while the central highland and north Deccan added 3% each.

9. The end of the doing business rankings

The World Bank Group has scrapped its flagship publication, the 'Doing Business' report.

Doing Business Report

- This report publishes the influential annual ranking of countries on the Ease of Doing Business (EDB) index.
- It ranks countries by the simplicity of rules framed for setting up and conducting businesses.

Utility of the index

The World Bank's decision has wide ramifications, as the index serves varied purposes.

- Many countries showcase improved ranking to signal market-friendly policies to attract foreign investments. National leaders often set EDB rank targets.
- This helps them measure domestic policies against global "best practices" and browbeat domestic critics.
- India, for instance, wanted its administration to ensure that India breaks into the top 50 ranks of the EDB index.
- Some countries seem to use their political heft to improve their rank, polish their international image and sway public opinion (as appears to be China's case).

Issues with the credibility of the report

- The Group acted on its commissioned study to examine the ethical issues flagged in preparing the 2018 and 2020 editions of the EDB index.
- It is accused of having exerted pressure on the internal team working on the Doing Business report to falsely boost China's rank by doctoring the underlying data.
- Similarly, tensions were also reportedly brought to bear in the case of Saudi Arabia's rank, among others.

EDB index rank vs economic outcomes

- There is a disconnect between the stellar rise in EDB index rank and economic outcomes.
- The theory underlying the EDB index could be suspect, the measurement and data could be faulty, or both.
- For example, China's phenomenal economic success, especially its agricultural performance (after the reforms in 1978), is perhaps the most unmistakable evidence demonstrating that lack of clarity of property rights may not be the binding constraint in a market economy.
- What matters is economic incentives.
- Measuring regulatory functions underlying the index could be tricky and subjective and possibly politically motivated as well, as the controversies surrounding the index seem to suggest.

EODB in India: At what cost

Ans. Weakening labour regulations

- Closer home, India has weaponised the mandate to improve the rank in the EDB index to whittle down labour laws and their enforcement and bring them close to the free-market ideal of 'hire and fire'.
- Most States have emulated Maharashtra's lead of administrative fiat, which renders labour laws toothless by dismantling official labour inspection systems and allowing employers to file self-regulation reports.
- The government has farmed out critical safety regulations such as annual inspection and certification of industrial boilers to 'third party' private agencies.
- The Labour Department's inspection is now not mandated; it is optional only by prior intimation to employers.

Implications of such moves

- Such abdication of the government's responsibility towards workers has reportedly affected industrial relations.
- The workers' strike at Wistron's iPhone assembly factory in Karnataka last year is an example.
- Further, severe industrial accidents are rising, damaging life and productive industrial assets.

Why did World Bank scrap the index?

- Investigations into "data irregularities" in preparing the EDB index, as brought out by the independent agency, seems to confirm many shortcomings repeatedly brought to light for years now.
- The index appears motivated to support the free-market ideal.
- It is dressed up under scientific garb and is underpinned by seemingly objective methods and data collection.
- Strong leaders (and motivated officials) seem to have used their position to manipulate the index to suit their political and ideological ends.

Conclusion

- India claimed the success of its Make in India initiative by relying on its ranking on the EDB index without tangible evidence.
- Handing over law enforcement to employers by self-reporting compliance seems to have increased industrial unrest and accidents.
- It perhaps calls for honest soul-searching as to what havoc a questionable benchmark can wreak.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. Front-of-pack labelling of Food Stuffs

Seven years, four committees and two draft regulations later, India still does not have a clear labelling system to warn consumers about harmful levels of fat, salt and sugar in processed foods.

In News

- According to the Food Safety and Standards (Packaging and Labelling) Regulations, 2011, every pre-packed processed food product sold in the country must be labelled with nutritional information.
- To ensure that consumers are able to easily see and interpret the nutritional information on food packets, an expert committee was established by the Food Safety and Standards Authority of India (FSSAI).
- The committee, set up following an order of the Delhi High Court which was hearing a public interest petition seeking a ban on the sale of junk food in and around schools.

Why label nutritional information?

- This helps the consumer know everything about the food they buy and make an informed decision about what and how much to eat.
- Such information is particularly crucial because the packaged food contain ultra-processed foods that are high in fat, salt or sugar and low in fibre and other essential micronutrients.
- On the one hand, these foods cause malnutrition.
- On the other hand they are linked strongly with obesity and diet-related non-communicable diseases, such as Type-2 diabetes, hypertension, heart ailments and certain cancers, like that of the colon.
- All these increase the risk of premature death.

Issues with labelling in India

- Not to mention that most products provide information in English understanding which can be daunting for a vast number of people in India.

What is FoP labelling?

- The front-of-pack (FoP) labelling system has long been listed as one of the global best practices to nudge consumers into healthy food choices.
- It works just the way cigarette packets are labelled with images to discourage consumption.
- Countries such as Chile, Brazil and Israel have laws to push the packaged food industry to adopt FoP labelling.
- They have used FoP labelling as a measure to fight obesity and NCDs.

FoP labelling in India

- The system is yet to be implemented in India even seven years after it was first proposed by FSSAI.
- The fact is, makers of packaged foods are also a powerful lot, with strong business acumen.
- While companies in other countries have acceded to the FoP labelling laws, they are unwilling to do so in India – a country experiencing a dietary shift.

Why must we have FoP labels?

- Countries are working to find ways to nudge consumers into healthy food choices and to contain the growing crisis of obesity and diet-related non-communicable diseases (NCDs).
- It is a crisis that increasingly impacts children and also exacerbates novel coronavirus disease (COVID-19) symptoms. Front-of-pack (FoP) labelling is definitely an effective tool in this effort.

India definitely needs 'warning labels' on front-of-pack, but this must be a symbol-based label with no text and numbers. This is because:

(1) Junk foods have high levels of unhealthy nutrients

- There is strong evidence that sugar, salt and fat in junk foods are addictive, like nicotine in tobacco.
- FoP 'warning' labels have helped reduce cigarette consumption. It is time we adopted the same for junk foods.

(2) Warning labels are easy to notice and understand

- They do not confuse consumers with mixed messages.
- Their distinct shape, colour and size make them noticeable in the otherwise cluttered and colourful packaging.

- With one label for one nutrient, it becomes easier to know if a product is high in more than one nutrient.

(3) Warning labels are the global best practice now

- At least seven countries have adopted warning labels in the past five years. These include Chile, Peru, Mexico, Israel and Uruguay.
- Low- and middle-income mothers have shown profound changes in attitudes towards food purchases as they now understand the nutritional content of packaged foods.
- Even children can read the labels and take an informed decision. This has also forced food companies to reduce the amount of sugar and sodium in foods and beverages.

(4) They are best suited for India

- Warning labels are best suited for India as they do not include numbers unlike many other FoP labels.
- In fact, warning labels that are symbol-based, like that of Israel, can transcend the barriers of literacy and language in India.

(5) FSSAI has experience of successfully implementing symbol-based FoP labels

- Its “green filled circle in green outlined square” logo to depict vegetarian food has been hugely successful in informing consumers.
- In recent years, FSSAI also has made similar laws to depict fortification (+F logo) and organic food (a green-coloured tick for Jaivik Bharat logo).

Way forward

- FoP labels must include information on nutrients that make food injurious to health.
- This should be distinct from the details on the back-of-pack. FoP labels should aim to inform the consumer, while the back-of-pack label serves the purpose of scientific compliance and enforcement.
- FoP labels should have information on ‘total sugar’ and not ‘added sugar’. There is no analytical laboratory method to differentiate ‘added sugar’ from total sugar and quantify it.

2. WIPO (World Intellectual Property Organization)

WIPO has its origins in the United International Bureaux for the Protection of Intellectual Property (BIRPI) which was established in 1893.

- It is a **UN specialized agency** created in 1967 to promote IP protection and encourage creative activity all over the World.
- **Headquarter of WIPO is in Geneva - Switzerland. India joined in 1975.**
- WIPO is basically a global forum for IP policy, services, information and cooperation.
- WIPO is a **self funded agency** of UN. It has 192 members.
- **4 Types of IP are :** Trade Secrets, Trademarks, Copyrights and Patents.

Functions of WIPO

- To assist the development of campaigns that improve IP Protection all over the globe and keep the national legislations in harmony.
- Signing international agreements related to Intellectual Property Rights (IPR) protection.
- To implement administrative functions discussed by the Berne and Paris Unions.
- To render legal and technical assistance in the field of IP.
- To conduct research and publish its results as well as to collect and circulate information.
- To ensure the work of services that facilitates the International Intellectual Property Protection.
- To implement other appropriate and necessary actions.

Some Treaties associated with WIPO

- **WIPO Performance and Phonograms Treaty (WPPT)**
 1. WPPT deals with the rights of two types of beneficiaries, especially in the digital environment:
 2. For example: Singers, Actors, Musicians, etc. (Performers) and Producers of Phonograms.
- **Budapest Treaty: International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure was the purpose of this treaty.**
- **Madrid Protocol for the International Registration of Marks: The Protocol ensures the protection of a mark in many countries by securing an international registration that has effect in all of the designated Contracting Parties.**
- **Marrakesh Treaty to Facilitate Access to Published Works by Visually Impaired Persons and Persons with Print Disabilities: Marrakesh Treaty allowed copyright exceptions that facilitated the creation of accessible versions of books. It also provided copyrighted works for the visually impaired.** India was the 1st country to ratify Marrakesh treaty.

- **WIPO Copyright Treaty: It dealt with the Protection of works and the rights of their authors in the digital environment.**

India is a part of the following WIPO treaties

- IPO Convention (1975)
- Paris Convention (1998)
- Berne Convention (1928)
- Patent Cooperation Treaty (1998)
- Phonograms Convention (1975)
- Nairobi Treaty (1983)

WIPO publishes Global Innovation Index (GII)

- It is a global ranking for countries for success in innovation.
- It is published by WIPO with **Cornell University and INSEAD.**
- It ranks on the basis of IPR to R&D, online creativity, mobile app, education, software spending, ease of doing business etc.

3. Rail Kaushal Vikas Yojana

The Minister of Railways launched the **Rail Kaushal Vikas Yojana**, a program under the aegis of Pradhan Mantri Kaushal Vikas Yojana (PMKVY).

Highlights of the scheme:

- It is aimed to **impart training skills** to the youth in various trades to bring qualitative improvement under the **Apprentice Act 1961.**
- The training will be provided to 50000 candidates over a period of three years in four trades viz. **Electrician, Welder, Machinist and Fitter.**
- **Eligibility:** 10th passed candidates aging between 18-35 years.
- The program has been developed by **Banaras Locomotive Works**, it will standardize assessments and maintain centralized database of participants.
- A nodal website is being developed as the **single source of information** about programs offered.

Significance of the Scheme:

- The scheme will improve the **employability** of the youth.
- It will upgrade the **skills of self-employed** and those who are working with contractors through re-skilling and up – skilling and contribute towards Skill India Mission.

About Pradhan Mantri Kaushal Vikas Yojana:

Background:

- Pradhan Mantri Kaushal Vikas Yojana (PMKVY) was launched in 2015 to **encourage and promote skill development** in the country by providing free short duration skill training.
- The idea is to boost both industry and employability of youths.

Objectives of PMKVY:

- Enable and mobilize a large number of youths to take up **industry designed** quality **skill training**.
- **Increase productivity** of the existing workforce, and align skill training with the actual needs of the country.
- **Encourage standardization** of the Certification process and put in place the foundation for creating a registry of skills.
- Benefit to 10 million youth over the period of four years (2016- 2020).

Key components of the Scheme:

1. Short Term Training (STT) - It is aimed towards the candidates who are either school/college dropouts or unemployed. Duration of the training varies according to the job role.

- The Training is provided according to the National Skills Qualification Framework (NSQF) with Soft Skills, Entrepreneurship, Financial and Digital Literacy curriculum, a part of the curriculum.

2. Recognition of Prior Learning (RPL) - Individuals with prior learning experience or skills are assessed and certified under this Scheme.

- It aims to align the competencies of the unregulated workforce of the country to the NSQF.
- The duration of the training ranges between 12-80 hrs.

3. Special Projects - This aims to encourage trainings in special areas and premises of Government bodies, corporate bodies.

- Provides training in special job roles not defined under the National Occupational Standards (NOSs).

Implementation:

1. Centrally Sponsored Centrally Managed (CSCM): It is implemented by National Skill Development Corporation.

- 75% of the PMKVY funds have been allocated under CSCM.

2. Centrally Sponsored State Managed (CSSM): It is implemented by State Governments through State Skill Development Missions (SSDMs).

- 25% of the PMKVY have been allocated under CSSM.

GS 3 : Economy, Science and Technology, Environment

4. What is Vishnuonyx?

Between 12.5 million and 14 million years ago, members of a genus of otters called Vishnuonyx lived in the major rivers of southern Asia.

Vishnuonyx neptuni

- Vishnuonyx were mid-sized predators that weighed, on average, 10-15 kg.
- Before this, the genus was known only in Asia and Africa (recent findings show that Vishnuonyx reached East Africa about 12 million years ago, according to the release).
- Vishnuonyx depended on water and could not travel long distances over land.

Why in news?

- German researchers have discovered the fossil of a previously unknown species, which they have named Vishnuonyx neptuni, meaning 'Neptune's Vishnu'.
- Fossils of these now extinct otters were first discovered in sediments found in the foothills of the Himalayas.
- Now, a newly found fossil indicates it had travelled as far as Germany. '
- The dispersal of Vishnuonyx otters from the Indian subcontinent to Africa and Europe about 13 million years ago. '
- This is the first discovery of any member of the Vishnuonyx genus in Europe; it is also its most northern and western record till date.

How did it travel as far as Europe?

- According to the researchers, its travels over 6,000 km were probably made possible by the geography of 12 million years ago, when the Alps were recently formed.
- These Alps and the Iranian Elbrus Mountains were separated by a large ocean basin, which would have made it easier for the otters to cross it.
- Researchers believe 'Neptune's Vishnu' first reached southern Germany, followed by Ancient Guenz and eventually, the Hammerschmiede.

5. Species in news: Sea Cucumber

In a swift operation, the Indian Coast Guard (ICG) at Mandapam, Tamil Nadu seized two tonnes of sea cucumber, a banned marine species.

Sea Cucumbers

- Sea cucumbers are part of a larger animal group called echinoderms, which also contains starfish and sea urchins.
- Their body shape is similar to a cucumber, but they have small tentacle-like tube feet that are used for locomotion and feeding.
- One way that sea cucumbers can confuse or harm predators is by propelling their own toxic internal organs from their bodies in the direction of an attacker.
- The organs grow back, and it may save them from being eaten.
- They are found in virtually all marine environments throughout the world, from shallow to deep-sea environments.
- They are benthic, meaning they live on the ocean floor. However, their larvae are planktonic, meaning they float in the ocean with the currents.

Conservation status

- Sea cucumber in India is treated as an endangered species listed under schedule I of Wildlife Protection Act of 1972.
- It is primarily smuggled from Tamil Nadu to Sri Lanka in fishing vessels from Ramanathapuram and Tuticorin districts.

6. Environmental DNA technique

Environmental DNA **technique can be** utilised **in the rivers, lakes, wetlands to find out and monitor freshwater species.**

Need for the technique:

- **Rivers, lakes and wetlands** cover just **1%** of the Earth's surface but have **nearly 10%** of all species, including fish, mammals, birds, insects and crustaceans.
- But due to pollution, mining, encroachment etc. these **diverse ecosystems** are **losing more species** than land or ocean ecosystems.
- **Current techniques** for monitoring freshwater species are **labour-intensive** and **costly**.
 - Traditional bio monitoring methods are **slow and expensive**.

- Collecting and identifying aquatic organisms requires **highly skilled ecologists** and taxonomists with an expertise in a wide variety of freshwater species.
- Thus, **individual species** and their abundance are counted at **just a few sites**.
- The environmental DNA, or eDNA method can **vastly expand bio-monitoring** in rivers etc. to catalogue and count species.
 - This data is needed to **restore water** quality and **save dwindling species** from extinction.

Environmental DNA method:

- The process involves **extracting eDNA** from **genetic material floating in the water** — skin, scales, faeces and single-celled organisms, such as bacteria.
- By **analysing** this genetic information, a wide range of species can be detected.
- Collecting **eDNA is easy**, 4-ounce water sample can capture remnant DNA from thousands of aquatic species. Further, this method **does not require killing** wildlife for identification.
- In the lab, the DNA from **different taxonomic groups is analysed** one by one: bacteria, algae, fish and **macro-invertebrates** (organisms that lack backbones and are large enough to see, such as snails, worms and beetles).
- Then the **DNA sequences are matched** with the freshwater species that are already catalogued in **existing databases**. In this way, the distribution and abundance of these organisms within and across rivers can be charted.

Advantages of e-DNA:

- This process requires **just a cheap filter**, a syringe and vials, and is cheap.
- **Less effort** is needed to detect a species using the eDNA method when compared with more traditional sampling techniques.
- The method is **non-invasive** and does not damage habitats. It **expands the ability** to quantify and study freshwater life.
- eDNA method can **provide higher taxonomic resolution**, especially in cases where species cannot be distinguished based on morphological characteristics.
- It is an important new **conservation tool**, allowing scientists to track changes in populations of endangered or invasive species.
 - Researchers can use **eDNA to monitor biodiversity** or discover new species in oceans or soils.
- The database can **aid many types of research**, state and local monitoring and conservation programmes.

7. India scores 46th rank in the Global Innovation Index 2021

India has climbed 2 spots and has been ranked 46th by the World Intellectual Property Organization in the Global Innovation Index 2021 rankings.

Global Innovation Index

- The Global Innovation Index (GII) is an annual ranking of countries by their capacity for, and success in, innovation.
- It is published by Cornell University, INSEAD, and the World Intellectual Property Organization, in partnership with other organizations and institutions.
- It is based on both subjective and objective data derived from several sources, including the International Telecommunication Union, the World Bank and the World Economic Forum.
- The index was started in 2007 by INSEAD and World Business, a British magazine. It was created by Prof. Soumitra Dutta.

Components of GII

- The GII is computed by taking a simple average of the scores in two sub-indices, the Innovation Input Index and Innovation Output Index, which are composed of five and two pillars respectively.

India's performance

- India has been on a rising trajectory, over the past several years in the Global Innovation Index (GII), from a rank of 81 in 2015 to 46 in 2021.
- India attributed its improved performance due to the pivotal role played by the Department of Atomic Energy, the Department of Science and Technology, the Department of Biotechnology and the Department of Space.

Global scenario

- Switzerland topped the league table, followed by Sweden, the US and the UK.
- Among Asian economies, South Korea jumped to the fifth position, up from 10 last year.
- China was in the 12th position.

Prelims Practice Questions

1. With reference to G20, consider the following statements:

1. It is an informal group of 19 countries and the European Union.
2. It is headquartered in Belgium.
3. The members represent about two-thirds of the world's population.

Which of the statements given above is/are correct?

- A 1 and 3 only
B 2 and 3 only
C 1 only
D 1, 2 and 3

Answer : A

Explanation

- The **G20** is an **informal group of 19 countries and the European Union**, with representatives of the International Monetary Fund and the World Bank. **Hence, statement 1 is correct.**
- The G20 **operates as a forum and not as an organisation**. Therefore, it does not have any permanent secretariat or management and administrative structure. **Hence, statement 2 is not correct.**
 - The membership comprises a mix of the world's largest advanced and emerging economies, **representing about two-thirds of the world's population**, 85% of global gross domestic product, 80% of global investment and over 75% of global trade. **Hence, statement 3 is correct.**
- **Members:**
 - Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the EU.
- The 2021 G20 Rome summit is the upcoming sixteenth meeting of Group of Twenty, scheduled to take place in Rome, the capital city of Italy, on 30–31 October 2021.

2. In the context of which one of the following are the terms pyrolysis and plasma gasification mentioned?

- a. Extraction of earth element
- b. Natural gas extractions technologies
- c. Hydrogen fuel based automobiles

d. Waste to energy technologies

Answer: d

Explanation:

- Pyrolysis and Plasma gasification are associated with waste to energy technologies.
- Pyrolysis is the heating of an organic material, such as biomass, in the absence of oxygen. Because no oxygen is present the material does not combust but the chemical compounds (i.e. cellulose, hemicellulose and lignin) that make up that material thermally decompose into combustible gases and charcoal.
- Plasma gasification is an extreme thermal process using plasma which converts organic matter into a syngas which is primarily made up of hydrogen and carbon monoxide. A plasma torch powered by an electric arc is used to ionize gas and catalyze organic matter into syngas, with slag remaining as a byproduct. Plasma gasification is an emerging technology which can process landfill waste to extract commodity recyclables and convert carbon-based materials into fuels.

3. Consider the following statements:

1. Sea cucumbers are marine invertebrates found generally in equatorial regions.
2. Sea cucumbers are an integral part of the coral ecosystem.
3. Sea cucumbers act like garbage collectors of the ocean world and they recycle nutrients.

Which of the statements given above is/are correct?

- A 1 and 2 only
- B 2 and 3 only
- C 3 only
- D 1, 2 and 3

Answer : B

Explanation

- **Sea cucumbers are marine invertebrates** that live on the seafloor **found generally in tropical regions**. They're named for their unusual oblong shape that resembles a fat cucumber. **Hence, statement 1 is not correct.**

- This class falls under the Echinodermata phylum, which also includes many other well-known marine invertebrates, such as sea stars, sea urchins and sand dollars.
- **They are an integral part of the coral ecosystem** as one of the main by-products of the sea cucumbers digestion of sand is calcium carbonate and this is essential for the survival of the coral reefs. **Hence, statement 2 is correct.**
 - **They act like garbage collectors of the ocean world**, and they **recycle nutrients**, thus playing an important role in keeping coral reefs in good condition. **Hence, statement 3 is correct.**

4. The mind of the makers of the Constitution of India is reflected in which of the following?

- a. The Preamble
- b. The Fundamental Rights
- c. The Directive Principles of State Policy
- d. The Fundamental Duties

Answer: a

Explanation:

The mind of the makers of the Constitution is reflected in the Preamble. It contains a summary or the essence of the Constitution. The Preamble to the Constitution of India comprises the aims and vision of the Constituent Assembly as well as makes a mention of the source of authority of the Constitution.

5. What best describes the term 'stablecoin', seen frequently in news?

- a. A new coin being minted by the RBI that uses a stable metal to prevent corrosion
- b. A debt instrument being introduced by the US Federal Reserve to help fund an economic stimulus package
- c. A type of cryptocurrency that is typically pegged to an existing government-backed currency
- d. None of the above

Answer: c

Explanation:

- Stablecoins are cryptocurrencies that are meant to be pegged to a reserve asset, such as gold or the U.S. dollar, to keep their value stable.

- A stablecoin is a new class of cryptocurrencies that attempts to offer price stability and are backed by a reserve asset. Stablecoins have gained traction as they attempt to offer the best of both worlds – the instant processing and security or privacy of payments of cryptocurrencies, and the volatility-free stable valuations of fiat currencies.

6. Consider the following statements about Startup India Seed Fund Scheme

1. It aims to provide financial assistance to start-ups up to Rs. 70 lakh and incubators up to Rs. 5 crore as grant.
2. The scheme is implemented by the Ministry of Finance.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : a

- Startup India Seed Fund Scheme (SISFS) aims to provide financial assistance to startups for proof of concept, prototype development, product trials, market entry and commercialization.
- Start-ups can avail up to Rs.70 lakh and incubators would get up to Rs. 5 crore as grant and if they are able to spend this in three years, they would get another Rs. 5 crore.
- The Seed Fund will be disbursed to eligible startups through eligible incubators across India.
- It is implemented by Ministry of Commerce and Industry

Mains Practice Questions

1Q. Examine the reasons and impact of 'devi-dasi' dichotomy prevalent in Indian society. (250 words)

Approach

- Briefly define the idea/dichotomy of devi/dasi concept.
- Locate the cultural, political, social and economic reasons behind genesis and continuity of this idea. Include examples to substantiate.
- Elaborate with impact with its broad ramification on Indian society
- Conclude in brief with focus on this idea's irrelevance in modern society and way forward.

2Q. PM-KISAN is aimed at boosting rural consumption and helping poor farmers recover from distress. Examine the challenges of PM-KISAN in this context. (250 words)

Approach

- Introduce by mentioning the situation of farm distress and the need for schemes like PM-KISAN.
- Give details of PM-KISAN and how it aims to improve farmer's condition.
- Mention the challenges in rolling out PM-KISAN.
- Conclude by giving suggestions to improve its functioning.