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GENERAL STUDIES – 1

TOPIC: HISTORY

VEER SAVARKAR

In News:

Prime Minister Narendra Modi paid tribute to Veer Savarkar on his Jayanti.

Analysis of Background:

About Veer Savarkar:

- Savarkar was born to a Marathi Brahmin family in 1883. Since his early days, he was influenced by the radical side of the Indian freedom struggle.
- During his days as a law student in London, he began organising radical political activities.
- It was during his days in London that Savarkar wrote The First War of Independence about the 1857 revolt against British forces in India.
- Savarkar was later arrested and tried for his protest against the 1909 Morley-Minto reforms. In 1911, he was sentenced to 50 years of imprisonment at the notorious Cellular Jail in the Andaman and Nicobar Islands, which was infamously called Kala Pani.
- While in prison, Savarkar also wrote the pamphlet Hindutva: Who is a Hindu? The work promoted the idea of Hinduism as a political and cultural identity. The freedom fighter also coined the definition of Hindutva in this work.
- He was released in 1924 after several mercy petitions, he filed, wherein he promised to stay away from political activities if he was released. Political controversy surrounds Savarkar's release to date, with parties like the Congress alleging that he was a "traitor" due to the mercy petitions he filed before the British.
- Savarkar was opposed to the caste system, superstitious rituals and cow worship. He was the president of the Hindu Mahasabha from 1937 to 1942. He also opposed the Quit India Movement launched by Mahatma Gandhi.

- Savarkar was accused of being a co-conspirator in Gandhi's assassination in 1948. He was later acquitted of all charges. He passed away on 26 February 1966 at the age of 82.

JAGANNATH TEMPLE

In News:

- The ambitious Puri heritage corridor project of the BJD-led Odisha government has landed into a controversy.
- A recent affidavit filed by the Archaeological Survey of India (ASI) in the Orissa High Court has further intensified the debate around the project.

Analysis of Background:

Puri Heritage Corridor Project:

- Conceived in 2016, the Puri Heritage Corridor Project was unveiled in December 2019 to transform the town into an international place of heritage.
- The project includes redeveloping major portions of the town and in the vicinity of the temple for visitors and tourists.
- The project includes Shree Jagannath Temple Administration (SJTA) building redevelopment, a 600-capacity Srimandir reception centre, Jagannath cultural centre including Raghunandan library, integrated command, and control centre, Badadanda heritage streetscape, Srimandir amenities improvement, Sri Setu, Jagannath Ballav pilgrim centre, multilevel car parking, municipal market development, Swargadwar development, Pramod Udyan, Gurukulam, Mahodadhi market, beachfront development, Puri lake, Musa river revival plan, Atharnala and housing for sevayats.

What is the controversy about?

- The 12th-century shrine is a centrally protected monument, with the ASI as its custodian.
- As per rules laid down under the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, construction activities within 100 metres around such a monument's perimeter are restricted.

- Constructions can only be carried out with approval from the National Monuments Authority (NMA).
- NMA guidelines suggest that a heritage impact assessment study is a must for developmental work around any monument of archaeological importance with a built-up area of over 5,000 square metres. The Jagannath temple is spread over 43,301.36 sq metres.
- For the heritage project, the NMA had issued a No Objection Certificate (NOC) to the state government on September 4, 2021, for the construction of a cloakroom, a shelter pavilion, three toilets, an electrical room and a pavement within the prohibited 75-metre zone.
- The NOC issued by NMA is about the fact that the public amenities do not come under the definition of construction as per the AMASR Act and that NMA has no objection if the project is carried out under ASI's supervision. However, no such NOC has been issued by the ASI.
- After a visit by the Director-General, ASI on February 21, 2022, to review the developmental works of the project, ASI wrote a letter to the state government on March 5, asking officials concerned to submit a revised proposal for the development of the Puri Sri mandir.

LUMBINI

In News:

- Prime Minister Narendra Modi to visit Lumbini in Nepal to participate in a ceremony to lay the foundation stone for a centre for Buddhist Culture and Heritage to coincide with Buddha Purnima.
- From the cultural point of view, India aimed to organise an international conference on the development of the Buddhist circuit, which will give a sense of participation and ownership to Buddhist countries.

Analysis of Background:

About Buddhist Circuit

- The circuit is a set of places where Lord Buddha was born, attained enlightenment, his first teachings and final resting place.
- Namely Lumbini-Bodh Gaya- Sarnath-Kushinagar

- Kushinagar is the centre of the Buddhist circuit, which consists of pilgrimage sites at Lumbini, Sarnath, and Gaya.

About Buddha Purnima

- Buddha Purnima, also known as Buddha Jayanti, is an auspicious day that marks the birth anniversary of Gautam Buddha.
- It is believed that this was also the day he attained enlightenment.
- Buddha Purnima falls on a full moon night, usually between April and May, and it is a gazetted holiday in India.

RABINDRANATH TAGORE

In News:

- Prime Minister Narendra Modi on 9th May paid his tributes to Gurudev Tagore on his Jayanti.

Analysis of Background:

About Rabindranath Tagore Jayanti

- Rabindranath Tagore Jayanti is a cultural celebration which is celebrated all over India and globally.
- According to the Bengali calendar, Rabindranath Tagore Jayanti is celebrated on the 25th day of Boisakh and as per the English calendar, it is celebrated on 7th May 2022. This year it is the 161st birth anniversary of Rabindranath Tagore.

About Rabindranath Tagore

- Rabindranath Tagore was a great Bengali poet, writer, novelist, philosopher and painter.
- Rabindranath Tagore was born on 7th May 1861 in Jorasanko Thakurbai in Kolkata.
- He was born to his mother Sarada Devi and father Debendranath Tagore and he belonged to an affluent brahmin family.
- He was the youngest one in his family and had a great desire to learn new things.

- He was respectfully called Gurudev and Bard of Bengal.
- He was popular for the contribution he has made in the field of art and literature.
- He was the first non-European, who received the Nobel Prize in the year of 1913 for his collection of poetry named 'Gitanjali', which was a big achievement being an Indian.
- Apart from being a prolific writer, he was also an influential artist and musician.
- He also composed the national anthem of India, and Bangladesh and even he contributed to the national anthem of Sri Lanka, which led him to become a renowned personality all over the world.
- He was one of the greatest revolutionaries, he was also an educationist and wanted to restructure the education system in India, so founded Shantiniketan to provide education and later this became Viswa Bharti University.
- He wrote approx 2230 songs in his whole life. In his last 13 years of life, he painted approx 3000 paintings and showed his creative power.

GOPAL KRISHNA GOKHALE

In News:

- Prime Minister Narendra Modi on 9th May paid his tributes to Gopal Krishna Gokhale on his birth anniversary.

Analysis of Background:

About Gopal Krishna Gokhale

- Gopal Krishna Gokhale was a great social reformer and educationist who provided exemplary leadership to India's freedom movement.
- He was born on 9th May 1866 in Kotluk village in Maharashtra.
- He studies at the Elphinstone College in Mumbai before joining as a professor at the Fergusson College in Pune, where he taught political economy and history.
- Gokhale first arrived on the national scene after cross-examining British colonial expenditure at the Welby Commission of 1897 in England.

- Gokhale's work earned him praise in India as he laid bare British military financing policies that heavily burdened Indian taxpayers much to the chagrin of then Viceroy Lord Curzon — regarded among the most vituperative of racists to occupy that post.
- In 1889, Gokhale joined the Indian National Congress, emerging as one of the main leaders of its 'moderate' wing, and gave up teaching three years later to work as a lawmaker for the remainder of his life.
- Between 1899 and 1902, he was a member of the Bombay Legislative Council followed by a stint at the Imperial Legislative Council from 1902 till his death.
- At Bombay, Gokhale opposed the British government's onerous land revenue policies, advocated free and compulsory primary education, and asked for the creation of equal opportunities to fight against untouchability.
- He also spoke for the Indian diaspora living in other parts of the British Empire and opposed tooth and nail the indentured labour system, raising their problems in the Imperial legislature as well as at Congress sessions.
- Gokhale became Congress president at its Banaras session in 1905.
- In 1907, he fervently campaigned for the release of Lala Lajpat Rai, who was imprisoned that year by the British at Mandalay in present-day Myanmar.
- After Mahatma Gandhi's return to India, he joined Gokhale's group before going on to lead the independence movement.
- Gandhi regarded Gokhale as his political mentor and wrote a book in Gujarati dedicated to the leader titled 'Dharmatma Gokhale'.

RAKHIGARHI

In News:

- DNA samples collected from two human skeletons unearthed at a necropolis of a Harappan-era city site in Haryana have been sent for scientific examination, the outcome of which might tell about the ancestry and food habits of people who lived in the Rakhigarhi region thousands of years ago.
- The skeletons of two women were found a couple of months ago at mound number 7 (named RGR 7 by the Archaeological Survey of India or (ASI), believed to be nearly 5,000 years old. Pots and other artefacts were also

found buried next to them in a pit, part of the funerary rituals back in the Harappan Civilisation era.

Analysis of Background:

About Harappan Civilisation

- Indus Valley Civilization is also known as the Harappan Civilization because Harappa was the first site to be excavated in 1921 under the supervision of Daya Ram Sahni.
- The known extent of IVC is up to Suktagendor in Baluchistan in the west; Alamgirpur (UP) in the east; Daimabad (Maharashtra) in the South; and Manda (Jammu & Kashmir) in the north.
- Indus Valley Civilization is the home to the largest of the four of its contemporary urban civilizations namely Mesopotamian or Sumerian Civilization, Egyptian Civilization, and Chinese Civilization.
- While IVC is on the banks of Indus, Egyptian Civilization flourished on the banks of the river Nile, Mesopotamian Civilization flourished on the banks of Tigris or Euphrates River and Chinese Civilization flourished on the banks of Hwang Ho River.
- Since it belongs to the Bronze/Chalcolithic age, it is also known as the Bronze Age Civilization.
- In the 1920s, the excavations were carried out in the Indus Valley regions, where ruins of the old cities were found. The first city to be unearthed was Harappa.
- In 1924, John Marshall, the then Director-General of the Department of Archaeology announced the discovery of the Indus Valley Civilization.

Features of Harappan Civilisation

- Urbanization & Town Planning
 - Town planning is the most important and distinguishing feature of the Harappan Civilization. Hence, it was called an urban civilization.
 - Towns were divided into parts namely citadel and lower town. Citadels were occupied by members of the ruling class and the lower town was inhabited by the common people.

- Another important feature of IVC is the drainage system. Drains were built of burnt bricks and covered by stone lids.
- Chanhudaro was the only town without a citadel.
- Agriculture & Economy
 - They grew wheat and barley on a large scale. Other crops that they grew included pulses, cereals, cotton, dates, melons, pea, sesamum, and mustard.
 - No clear evidence of rice has been found.
 - Harappan people were mostly peasants and thus the Harappan civilization was an agro-commercial civilization.
 - Harappans were the earliest people to grow cotton.
 - Their most important artistic work is sealed. Seals are made of steatite and they are square.
 - The most depicted animal is the bull.
 - Bangle making and shell ornament making were also practised.
 - Land and sea trade was in vogue in Indus Valley Civilization.
 - A dockyard has been found at Lothal which is the longest building of the Harappan Civilization.
- Religion of Harappans
 - Pashupati seal has been found in Mohenjodaro in which a Yogi has been depicted.
 - The Yogi on the seal is surrounded by buffalo, tiger, elephant, rhinoceros, and deer.
 - Signs of phallic worship have been found.
 - Harappans worshipped the mother Goddess. It is evident from the terracotta figurine recovered from Harappa.
 - A building called Great Bath has been found at Mohenjodaro. It was meant for ritual bathing.
 - No evidence of temples has been found in this civilization.
 - Amulets were found in large numbers

- Script of Harappans
 - The Harappans knew the art of writing.
 - More than 4000 specimens of scripts were found in excavations.
 - The script, however, is not alphabetical but pictographic and it has not been deciphered yet.

Important Sites of Harappan Civilisation

Site	Location	River Bank
Harappa	Montegomari, Punjab (Pakistan)	Ravi
Mohenjodaro	Larkana, Sindh (Pakistan)	Indus
Suktagendor	Baluchistan (Pakistan)	Dashta
Chanhudaro	Sindh (Pakistan)	Indus
Rangpur	Ahmedabad (India)	Meedar
Kalibangan	Ganganagar (Rajasthan)	Ghaggar
Lothal	Ahmedabad	Sabarmati & Bhogva
Banawali	Hissar (Haryana)	Saraswati
Amri	Sindh and Baluchistan	Indus
Dholavira	Gujarat	Luni

BASAVESHWARA

In News:

- On the occasion of the 12th-century social reformer Basaveshwara's birth anniversary, the Prime Minister has paid tribute to him.

Analysis of Background:

Basaveshwara:

- Basaveshwara or Basavanna was a Shiva-focused Bhakti saint and social reformer in Karnataka in the 12th century.
- He was a politician, philosopher, poet, and Lingayat saint.
- The Kalyani Chalukya/Kalachuri dynasty ruled throughout his lifetime.
- He was active during both dynasties' reigns, although his influence peaked during King Bijjala II's reign in Karnataka, India.
- Basava is said to be the creator of the Lingayats in tales and hagiographic literature.
- Basava was the poet-philosopher who revitalised, improved, and invigorated an already existent tradition, according to current research based on historical evidence such as the Kalachuri inscriptions.
- Basava's Lingayat theology was a type of qualified nondualism in which the individual Atman (soul) is God's body and there is no distinction between Shiva and Atman (self, soul).
- Basava's ideas are found in the Vedanta school, in a form more akin to Ramanuja, the 11th century Vishishtadvaita philosopher.

TOPIC: GEOGRAPHY

HEATWAVES

In News:

The World Meteorological Organisation (WMO) stated that “Heatwaves are more frequent and more intense and starting earlier than in the past.”

Analysis of Background:

- As large parts of India experience rising temperatures, the World Meteorological Organisation (WMO) said that it is premature to make a conclusion that the extreme heat is only due to climate change.
- The WMO has also highlighted that now the Heatwaves are more frequent and more intense and starting earlier than in the past.
- The India Meteorological Department (IMD) said April was the hottest in northwest India in 122 years.

World Meteorological Organization:

- The World Meteorological Organization (WMO) is a specialized agency of the United Nations (UN).
- It is an intergovernmental organization within the UN System.
- It is responsible for promoting international cooperation in atmospheric science, climatology, hydrology and geophysics.
- The WMO is made up of 193 countries and territories and encourages the "free and unrestricted" exchange of data, information, and research between the respective meteorological and hydrological institutions of its members.
- It also collaborates with nongovernmental partners and other international organizations on matters related to environmental protection, climate change, resource management, and socioeconomic development.
- Its Headquartered is in Geneva, Switzerland.

About Heat Wave:

- A heatwave or heatwave is a period of excessively hot weather, with high humidity, especially in oceanic climate areas.

- Heatwaves are usually measured relative to the usual weather in the area and relative to normal temperatures for the season.
- The definitions of heatwave vary from region to region. Temperatures that people from a hotter climate consider normal can be called a heatwave in a cooler area if they are outside the normal climate pattern for that area.
- Severe heatwaves have caused catastrophic crop failures, thousands of deaths from hyperthermia and widespread power outages due to increased use of air conditioning.
- A heatwave is considered extreme weather that can be a natural disaster and a danger because heat and sunlight may overheat the human body.
- Heatwaves can usually be detected using forecasting instruments so that a warning call can be issued.
- Climate models reveal that future heatwaves will have a more intense geographic pattern. The world will experience more intense, more frequent, and longer-lasting heat waves in the second half of the 21st century.
- Increased anthropogenic activities causing increased greenhouse gas emissions show that heatwaves will be more severe.
- Heatwaves and droughts, as a result, minimize ecosystem carbon uptake. Carbon uptake is also known as carbon sequestration. This will cause changes in the ecosystem's carbon cycle feedback because there will be less vegetation to hold the carbon from the atmosphere, which will only contribute more to atmospheric warming.

PANGONG TSO

In News:

The government reiterated that it has had seen reports of a bridge being built by China on Pangong Lake alongside its earlier bridge. Both these bridges are in areas that have continued to be under the illegal occupation of China since the 1960s.

Analysis of Background:

- Pangong Tso is an endorheic saline lake spanning eastern Ladakh and West Tibet.

- It has a land-locked basin separated from the Indus River basin by a small elevated ridge.
- It is 134 km long and divided into five sublakes, called Pangong Tso, Tso Nyak, Rum Tso (twin lakes) and Nyak Tso.
- The lake, a glacial melt, has mountain spurs of the Chang Chenmo range jutting down, referred to as fingers.

Pangong Tso and LAC

- Pangong Tso is in disputed territory. The Line of Actual Control passes through the lake.
- Approximately 50% of the length of the overall lake lies within Tibet China, 40% in Ladakh India and the rest is disputed and is a de-facto buffer zone between India and China.
- An Inner Line Permit is required to visit the lake as it lies on the Sino-Indian Line of Actual Control.



Recognition

- The lake is in the process of being identified under the Ramsar Convention as a wetland of international importance.
- This will be the first trans-boundary wetland in South Asia under the convention.

DIMA HASAO

In News:

- Disaster has struck Dima Hasao after incessant heavy rainfall which severely affected the 170 km railway line connecting Lumding in the Brahmaputra Valley's Hojai district and Badarpur in the Barak Valley's Karimganj district.

Analysis of Background:

- Dima Hasao district earlier called North Cachar Hills district, is an administrative district in the state of Assam enjoying the Sixth Schedule status.
- Dima Hasao district is one of the two Autonomous hill districts of the state of Assam.
- The district headquarter Haflong is the only hill station in Assam, a tourist paradise, also named the Switzerland of the north-east.
- Dima Hasao District is surrounded by Karbi Anglong district and Nagaland on North-East, Manipur on East, Hojai District on North, West Karbi Anglong district on North-West, Meghalaya on West and Cachar district on South.
- It is one of the eleven districts in Assam currently receiving funds from the Backward Regions Grant Fund Programme (BRGF).

GENERAL STUDIES – 2

TOPIC: POLITY AND GOVERNANCE

TRIBUNALS

In News:

The Foreigners' Tribunals (FTs) across Assam were suggested by the State Coordinator of the National Register of Citizens (NRC) to not consider the draft NRC as dependable evidence for the disposal of cases.

Analysis of Background:

Foreigners' Tribunal

- A Foreigners' Tribunal is a quasi-judicial body entrusted with determining the status of citizenship of people that are suspected to be or marked as foreigners.
- A Foreign Tribunal member acts as a judge while deciding the case.
- Under the provisions of the Foreigners Act 1946 and Foreigners (Tribunals) Order 1964, only the Foreigners Tribunals are empowered to declare a person as a foreigner.

Tribunals:

- The original Constitution did not contain provisions with respect to tribunals.
- The 42nd Amendment Act of 1976 added a new Part XIV-A to the Constitution. This part is entitled 'Tribunals' and consists of only two Articles;
 - Article 323 A: Dealing with administrative tribunals.
 - Article 323 B: Dealing with tribunals for other matters.
- Administrative Tribunals: Article 323 A empowers the Parliament to provide for the establishment of administrative tribunals for the adjudication of disputes relating to recruitment and conditions of service of persons appointed to public services of the Center, the states, local bodies, public corporations and other public authorities.

- Under Article 323 A, the Parliament passed the Administrative Tribunals Act in 1985.
- The act authorizes the Central government to establish Central Administrative Tribunal (CAT) and the State Administrative Tribunals (SAT).
- Central Administrative Tribunal (CAT): The CAT exercises original jurisdiction in relation to recruitment and all service matters of public servants covered by it. Its jurisdiction extends to the all-India services, the Central civil services, civil posts under the Center and civilian employees of defence services.
- State Administrative Tribunals (SAT): The Administrative Tribunals Act of 1985 empowers the Central government to establish the State Administrative Tribunals (SATs) at the specific request of the concerned state governments.
 - The SATs exercise original jurisdiction in relation to recruitment and all service matters of state government employees.
- Tribunals function as a parallel mechanism to the traditional court system.
- Tribunals were established for two main reasons:
 - Allowing for specialized subject knowledge in disputes on technical matters.
 - Reducing the burden on the court system.
- The Finance Act, of 2017 reorganized the Indian tribunal system to ensure uniformity in their administration by merging certain tribunals based on the similarity in their functional domain.
- The 2017 Act also empowered the central government to make Rules to provide for the qualifications, appointments, term of office, salaries and allowances, removal, and other conditions of service for chairpersons and members of these tribunals.
- The Tribunals Reforms Act 2021 abolishes nine existing appellate bodies and transfers their functions mainly to high courts.
- The 2021 Act also amends the Finance Act, of 2017, to bring certain provisions (such as qualifications, appointments, term of office, salaries and allowances of tribunal members) under the purview of the 2021 Act.

Key points of Tribunal Reforms Act 2021

- The Act dissolved certain existing appellate bodies and transferred their functions (such as adjudication of appeals) to other existing judicial bodies.
- Provisions on the composition of selection committees and terms of office have been included in the Act.
- Qualification of members and other terms and conditions of service will be notified by the central government.
- The Chairperson and Members of the Tribunals will be appointed by the central government on the recommendation of a Search-cum-Selection Committee. The Committee will consist of:
 - The Chief Justice of India, or a Supreme Court Judge nominated by him, as the Chairperson (with casting vote).
 - 2 Secretaries nominated by the central government.
 - The sitting or outgoing Chairperson, a retired Supreme Court Judge, or a retired Chief Justice of a High Court.
 - The Secretary of the Ministry under which the Tribunal is constituted (with no voting right).
- State administrative tribunals will have separate search-cum-selection committees. These Committees will consist of:
 - The Chief Justice of the High Court of the concerned state, as the Chairman (with a casting vote).
 - The Chief Secretary of the state government and the Chairman of the Public Service Commission of the concerned state.
 - The sitting or outgoing Chairperson, or a retired High Court Judge.
 - The Secretary or Principal Secretary of the state's general administrative department (with no voting right).
 - The central government must decide on the recommendations of selection committees preferably within three months from the date of the recommendation.
- The Act provides for a 4-year term of office (subject to the upper age limit of 70 years for the Chairperson, and 67 years for members). Further, it specifies a minimum age requirement of 50 years for the appointment of a chairperson or a member.

Concerns:

- The existence of a large number of vacancies for Members and Chairpersons and the delay caused in filling them up has resulted in the weakening of the tribunals.
- The dissolution of certain tribunals and appellate bodies and the transfer of their functions to High Courts can be criticized on the grounds that Indian courts are already overburdened with their existing caseload.

NATIONAL HUMAN RIGHTS COMMISSION**In News:**

NHRC issued a notice to the Delhi government over the Mundka fire accident.

Analysis of Background:

- The National Human Rights Commission (NHRC) has issued a notice to the Delhi Government over the fire incident in Mundka, Delhi.
- NHRC issued a notice and asked the chief secretary to submit a report within two weeks.

National Human Rights Commission

- The National Human Rights Commission is a statutory body established in 1993 under the Protection of Human Rights Act, 1993.
- It was amended in 2006.
- The commission works as the watchdog of human rights in the country.

Composition of the Commission

- The commission is a multi-member body consisting of a chairman and four members.
- The chairman should be retired chief justice of India, and members should be serving or retired judges of the Supreme Court, a serving or retired chief justice of a high court and two persons having knowledge or practical experience concerning human rights.
- In addition to these full-time members, the commission also has 4 ex-officio members;

- The chairman of the National Commission for Minorities.
- The National Commission for SCs.
- The National Commission for STs.
- The National Commission for Women.
- The chairman and members are appointed by the president on the recommendations of a 6-member committee consisting of;
 - The Prime Minister is the head.
 - The Speaker of the Lok Sabha.
 - The Deputy Chairman of the Rajya Sabha.
 - Leaders of the Opposition in both the Houses of Parliament.
 - The Central home minister.
- The chairman and members hold office for a term of five years or until they attain the age of 70 years, whichever is earlier.
- The salaries, allowances and other conditions of service of the chairman or a member are determined by the Central government. But, they cannot be varied to his disadvantage after his appointment.
- After the tenure, the chairman and members are not eligible for further employment under the Central or state government.
- The President can also remove the chairman or any member on the ground of proven misbehaviour or incapacity.
- However, in these cases, the president has to refer the matter to the Supreme Court for an inquiry.
- If the Supreme Court, after the inquiry, upholds the cause of removal and advises so, then the president can remove the chairman or a member.

Functions of the Commission:

- Inquire into any violation of human rights or negligence in the prevention of such violation by a public servant, either suo motu or on a petition presented to it or on an order of a court.
- Intervene in any proceeding involving an allegation of violation of human rights pending before a court.
- Visit jails and detention places to study the living conditions of inmates and make recommendations.

- Review the constitutional and other legal safeguards for the protection of human rights and recommend measures for their effective implementation.
- Review the factors including acts of terrorism that inhibit the enjoyment of human rights and recommend remedial measures.
- Study treaties and other international instruments on human rights and make recommendations for their effective implementation.
- Undertake and promote research in the field of human rights.
- Spread human rights literacy among the people and promote awareness of the safeguards available for the protection of these rights.
- Encourage the efforts of non-governmental organisations (NGOs) working in the field of human rights.
- Undertake such other functions as it may consider necessary for the promotion of human rights.
- The Central government should inform the Commission of the action taken on the recommendations within three months.
- The commission submits its annual or special reports to the Central government and the state government concerned.
- These reports are laid before the respective legislatures, along with a memorandum of action taken on the recommendations of the commission and the reasons for non-acceptance of any of such recommendations.

Limitations of the Commission

- The functions of the commission are mainly recommendatory.
- No power to punish the violators of human rights, or to award any relief including monetary relief to the victim.
- Recommendations are not binding on the concerned government or authority.
- The commission has a limited role, powers and jurisdiction concerning the violation of human rights by the members of the armed forces.

Human Rights (Amendment) Act, 2006

- Reducing the number of members of State Human Rights Commissions (SHRCs) from five to three.

- Changing the eligibility condition for the appointment of a member of SHRCs.
- Strengthening the investigative machinery available with Human Rights Commissions.
- Empowering the Commissions to recommend the award of compensation, etc. even during the enquiry.
- Empowering the NHRC to undertake visits to jails even without intimation to the state governments.
- Strengthening the procedure for recording evidence of witnesses.
- Clarifying that the Chairpersons of NHRC and SHRCs are distinct from the Members of the respective Commission.
- Enabling the NHRC to transfer complaints received by it to the concerned SHRC.
- Enabling the Chairperson and members of the NHRC to address their resignations in writing to the President and the Chairperson and members of the SHRCs to the Governor of the state concerned.
- Clarifying that the absence of any member in the Selection Committee for selection of the Chairperson and member of the NHRC or the SHRCs will not vitiate the decisions taken by such Committees.
- Providing that the Chairperson of the National Commission for the Scheduled Castes and the Chairperson of the National Commission for the Scheduled Tribes shall be deemed to be members of the NHRC.

MPLADS SCHEME

In News:

The Union Finance Ministry has ordered to revise rules under MPLADS Scheme.

Analysis of Background:

- The Union Finance Ministry has decided to revise the rules of MPLADS Schemes.

- According to the latest notification released by the finance ministry, the interest that the fund accrues will be deposited in the Consolidated Fund of India.
- Each MP is allocated Rs 5 crores annually under the scheme.
- The MPLADS fund is released to the district authority and the MPs only have the power to recommend development work.
- The payment is also released by the designated district authority on completion of the work.
- So far, the interest accrued on the fund used to be added to the MPLADS account and could be used for the development projects.

Members of Parliament Local Area Development Scheme (MPLADS)

- It is an ongoing Central Sector Scheme which was launched in 1993-94.
- The Scheme allows the Members of Parliament (MP) to recommend developmental works such as drinking water, education, public health, sanitation, roads etc, in their constituencies.
- The Ministry of Statistics and Programme Implementation is responsible for the policy formulation, release of funds and monitoring of the implementation of the Scheme.
- MPs have to recommend at least 15% of the MPLADS funds of the year for areas inhabited by the Scheduled Caste population and 7.5% of Funds for areas inhabited by the Scheduled Tribes population.
- Lok Sabha Members can recommend works within their Constituencies.
- Elected Members of Rajya Sabha can recommend works within the State of Election.
- Nominated Members of both the Rajya Sabha and Lok Sabha can recommend works anywhere in the country.
- All works should meet locally felt infrastructure and development needs, with the objective of creating durable assets in the constituency.

How does it work?

- A Member of Parliament has to give his/ her choice of area in a prescribed format to the Ministry of Statistics and Programme Implementation with a

copy to the State Government and the District Magistrate of the chosen District.

- The annual funds of Rs 5 crore are released, in 2 equal instalments of Rs 2.5 crore each, by the Government of India directly to the District Authority of the Nodal District of the Member of Parliament concerned.
- MP can recommend work on the MP's letterhead and signed by the MP to the district authority.
- The District Authority shall identify the Implementing Agency capable of executing the work.
- District Authority shall be responsible for the timely and effective implementation of such works.

FREEDOM OF RELIGION

In News:

The Madras High Court has decided to hear a petition against the State government's order to frame guidelines against religious conversion in schools

Analysis of Background:

- The Madras High Court has decided to hear a PIL against the state government's order to frame guidelines against religious conversion in schools.
- The judge highlighted that the Indian Constitution provides a right to profess any religion but not to forcibly convert a person from one religion to another.

Constitutional Articles related to Freedom of Religion

- **Article 25** says that all persons are equally entitled to freedom of conscience and the right to freely profess, practice and propagate religion.
 - Freedom of conscience: Inner freedom of an individual to frame his relation with God or Creatures in whatever way he desires.
 - Right to Profess Declaration of one's religious beliefs and faith openly and freely.
 - Right to Practice: Performance of religious worship, rituals, ceremonies and exhibition of beliefs and ideas.

- Right to Propagate: Transmission and promotion of one's religious beliefs to others. But, it does not include a right to convert another person to one's religion.
- Article 25 covers religious beliefs and also religious practices (rituals).
- Article 26: Freedom to Manage Religious Affairs, every religious denomination or any of its sections shall have the following rights:
 - Right to establish and maintain institutions for religious and charitable purposes.
 - Right to manage its affairs in matters of religion.
 - Right to own and acquire movable and immovable property.
 - Right to administer such property under the law.
- Article 27 - Freedom from Taxation for Promotion of a Religion
 - No person shall be forced to pay any taxes for the promotion or maintenance of any particular religion or religious denomination.
 - The State should not spend the public money collected by way of tax for the promotion or maintenance of any particular religion.
 - This provision prohibits the State from favouring and supporting one religion over the other. This also means that the taxes can be used for the promotion or maintenance of all religions.
 - This provision prohibits only the levy of a tax and not a fee.
- Article 28 - Freedom from Attending Religious Instruction
 - No religious instruction shall be provided in any educational institution wholly maintained out of State funds.
 - No person attending any educational institution recognised by the State or receiving aid out of State funds shall be required to attend any religious instruction or worship in that institution without his consent.
- Article 29 - Protection of Interests of Minorities
 - It provides that any section of the citizens residing in any part of India having a distinct language, script or culture of its own, shall have the right to conserve the same.
 - No citizen shall be denied admission into any educational institution maintained by the State or receiving aid out of State funds on grounds only of religion, race, caste, or language.

- These rights are subject to public order, morality, health and other provisions relating to fundamental rights.
 - The State is permitted to regulate or restrict any economic, financial, political or other secular activity associated with religious practice.

DELIMITATION COMMISSION

In News:

Controversy over the draft report published by Delimitation Commission for the Jammu and Kashmir Assembly.

Analysis of Background:

- The Draft published by the Delimitation Commission for the Jammu and Kashmir Assembly has started a controversy.
- Out of the 90 Assembly Constituencies in the region, 43 will be part of the Jammu region and 47 of the Kashmir region.
- Under the draft published, some villages in one constituency are surrounded by villages of another.
- The Delimitation Commission of Jammu and Kashmir is chaired by retired Justice Ranjana Prakash Desai and includes Chief Election Commissioner Sushil Chandra and the State Election Commissioner as ex-officio members.
- As per Article 170, the states get classified into territorial constituencies after every census, according to the Delimitation Act.

About Delimitation Commission of India

- Delimitation literally means the act or process of fixing limits or boundaries of territorial constituencies in a country or a province having a legislative body.
- Article 82 - Parliament by law enacts a Delimitation Act after every Census.
- The Delimitation Commission is appointed by the President of India and works in collaboration with the Election Commission of India.
- The main task of the commission is redrawing the boundaries of the various assembly and Lok Sabha constituencies based on a current census.

- The representation of each State is not changed during this exercise. However, the number of SC and ST seats in a state is changed in accordance with the census.
- The present delimitation of constituencies has been done on the basis of the 2001 census under the provisions of the Delimitation Act, 2002.
- The Commission is a powerful and independent body whose orders cannot be challenged in any court of law.
- The orders are laid before the Lok Sabha and the respective State Legislative Assemblies. However, modifications are not permitted.
- Delimitation commissions have been set up four times in the past; 1952, 1962, 1972 and 2002, under the Delimitation Commission Acts of 1952, 1962, 1972 and 2002.
- The present delimitation of parliamentary constituencies within states has been done on the basis of the 2001 census.
- According to the 84th amendment, the present constituencies carved out on the basis of the 2001 census shall continue to be in operation till 2026.

Functions of Delimitation Commission

- The Delimitation Commission has to determine the number and boundaries of constituencies in such a manner that the population of all seats is the same, as far as practically possible.
- The Commission also identifies the seats to be reserved for the scheduled castes and scheduled tribes communities, in areas where their population is significant.
- The Commission releases draft proposals to the public through the Gazette of India and the official gazettes of states, and also in regional language newspapers.
- It also conducts public sittings wherein the public's opinion is heard through written or oral representations.
- If found appropriate, changes are made to the draft proposal.
- The final order is published in the Gazettes and comes into effect by a date specified by the President.

Delimitation challenges

- The present delimitation is based on the census of 2001, whereas the total number of seats in the Parliament and the Legislative Assemblies is fixed as per the census of 1971.
- The Constitution of India has put a cap on the maximum number of seats in the Lok Sabha to 550 and Rajya Sabha to 250. Therefore an increasing number of populations are being represented by a single representative.

COLLEGIUM SYSTEM

In News:

The Collegium of the Supreme Court has recommended Justice Sudhanshu Dhulia and justice Jamshed Burjor Pardiwala, as the Chief Justices of the Gauhati and Gujarat High Courts, respectively.

Analysis of Background:

Collegium System

- Under the Collegium System, appointments/elevation of judges/lawyers to the Supreme Court and transfers of judges of High Courts and Apex Court are decided by a panel of the Chief Justice of India and the four senior-most judges of the Supreme Court.'
- The word 'Collegium' is nowhere mentioned in the Indian Constitution, it has come into force as per Judicial Pronouncement.

Evolution of Collegium System

- Under the Constitution, The Judges of the Supreme Court are appointed by the president. The chief justice is appointed by the president after consultation with such judges of the Supreme Court and high courts as he deems necessary.
- The other judges are appointed by the president after consultation with the chief justice and other judges of the Supreme Court and the high court as he deems necessary.
- The consultation with the chief justice is obligatory in the case of the appointment of a judge other than the Chief justice

- First judges case (1982): The Supreme court held that consultation does not mean agreement and it only means an exchange of views.
- Second judges case (1993): The court changed its earlier ruling and changed the meaning of the word consultation to consensus.
- It ruled that the advice tendered by the CJI is binding on the President in matters of appointment of SC judges. But any such advice would be tendered after CJI consults with two of his most senior judges.
- Third judges case (1998): The consultation process should be based on the plurality of judges.
- CJI should consult a Collegium of four senior-most judges before making a recommendation to the President and even if two judges give an unfavourable opinion, he should not send the proposal to the President.

Qualifications for Supreme Court Judges

- A person shall not be qualified for appointment as a Judge of the Supreme Court unless he/she
- Is a citizen of India, and
- Has been for at least five years a judge of a High Court or a two such Courts in succession; or
- Has been for at least ten years an advocate of a High Court or of two or more such Courts in succession or is, in the opinion of the President, a distinguished jurist.
- Every person appointed to be a Judge of the Supreme Court shall, before he/she enters upon his/ her office, make and subscribe before the President an oath or affirmation according to the form set out in the Third Schedule of the Constitution.
- The Constitution does not prescribe a minimum age limit for a judge to occupy his/her office.
- A Judge of the Supreme Court continues to hold the office till he/she attains the age of 65 yrs.
- A Judge of the Supreme Court may tender his/her resignation to the President even before he/she reaches the age of 65 years.

- A Judge of the Supreme Court, after retirement, shall not do legal practice in any court in the territory of India and shall not plead before any authority under the Government.

PARDONING POWERS OF GOVERNOR

In News:

The Supreme Court advised the Union government to release the convict in the former Prime Minister Rajiv Gandhi's assassination case, as he already served a sentence of more than three decades.

Analysis of Background:

- The Supreme Court has advised the Union government to act against the Tamil Nadu Governor who chose to “ignore” the State Cabinet’s binding advice to release a convict.
- The Governor ignored the state cabinet's advice by highlighting that the President had the authority to decide on the mercy plea.

Governor

- Part VI of the Indian Constitution deals with the State government.
- Articles 153 to 167 in Part VI of the Constitution deal with the state executive. The state executive consists of;
 - The Governor
 - The Chief Minister
 - The Council of Ministers
 - The Advocate General of State.
- The office of the governor has a dual role;
 - The Governor is the chief executive head of the State.
 - The Governor also acts as an agent of the central government.
- Normally, there is a governor for each state, but the 7th Constitutional Amendment Act of 1956 enabled the appointment of the same person as a Governor for 2 or more states.
- Governor is appointed by the president by warrant under his hand and seal.

- It is an independent constitutional office and is not under the control of or subordinate to the Central government.

Pardoning Power of the Governor:

- Under Article 161 of the Indian Constitution, the Governor of a state can grant; Pardons, Reprives, Respites and Remissions of punishment or Suspend, Remit and Commute the sentence of any person convicted of any offence against any State law.
- Earlier, the Governor cannot pardon the death sentence that was the exclusive power of the Indian President. But in August 2021, the Supreme Court held that the Governor of a State can pardon prisoners; including death row ones, even before they have served a minimum of 14 years of a prison sentence.
- Pardon;
 - It removes both the sentence and the conviction and completely forgives the convict from all sentences, punishments and disqualifications.
- Commutation;
 - It denotes the substitution of one form of punishment for a lighter form.
 - For example, a death sentence may be commuted to life imprisonment.
- Remission;
 - It indicates reducing the period of a sentence without changing its character.
 - For example, a sentence of imprisonment for two years may be remitted to imprisonment for one year.
- Respite;
 - It suggests awarding a lesser sentence in place of originally awarded due to some special fact, such as the physical disability of a convict or the pregnancy of a woman offender.
- Reprieve;
 - It means a stay of the execution of a sentence (especially that of death) for a temporary period.
 - Its purpose is to enable the convict to have time to seek pardon or commutation from the Governor/President.

Comparison between Pardoning Powers of President and Governor

President	Governor
<ul style="list-style-type: none">Authority to pardon, reprieve, respite, remit, suspend, or commute the punishment or sentence of any person convicted of a violation of a Central law.	<ul style="list-style-type: none">Authority to pardon, reprieve, respite, remit, suspend, or commute the punishment or sentence of anyone who has been convicted of an offence against state law.
<ul style="list-style-type: none">Authority to pardon, reprieve, respite, remit, suspend, or commute a death sentence.The sole authority to pardon a death sentence.	<ul style="list-style-type: none">He is unable to pardon the death sentence. Even if a state law calls for the death penalty, the President, not the governor, has the authority to grant a pardon.However, the governor has the authority to suspend, remit, or commute a death sentence.
<ul style="list-style-type: none">Authority to grant pardon, reprieve, respite, suspension, remission, or commutation of punishment or sentence imposed by a court-martial (military court).	<ul style="list-style-type: none">He doesn't have this kind of power.

KHELO INDIA YOUTH GAMES

In News:

The Union Minister for Home Affairs and Cooperation addressed the closing ceremony of the Khelo India University Games 2021.

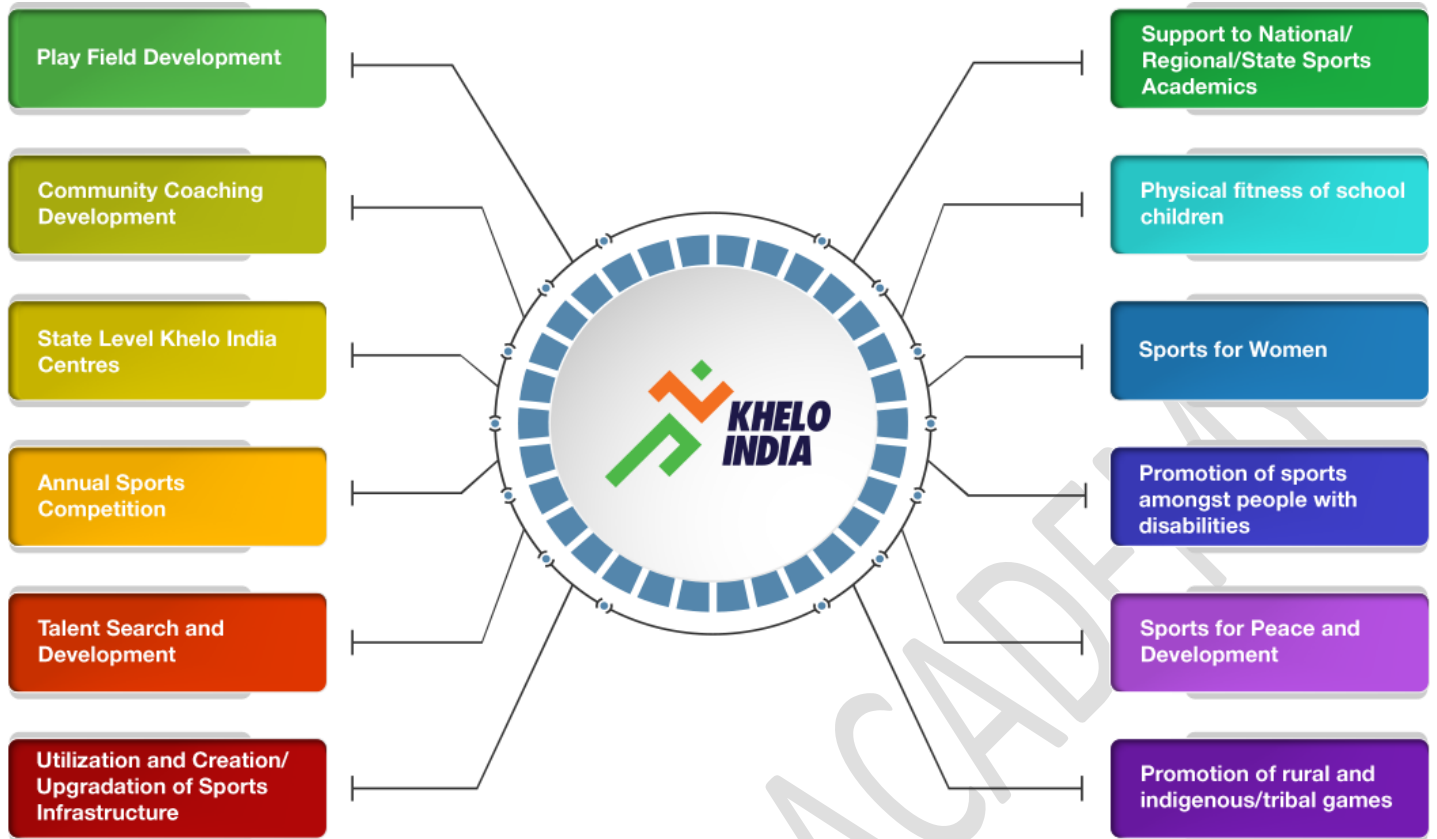
Analysis of Background:

- The Union Minister of home affairs has stated that the Khelo India University Games will help Sportspersons in preparing for the international level sports events.
- It was the 2nd edition of the Khelo India University Games, which was hosted in Bangalore, Karnataka.

- The Union Minister announced several new initiatives in this edition;
 - 1st Khelo India Green Games.
 - The Games have recyclable materials and it is being ensured that it was a zero-waste game.
 - A mobile application has been developed which provided all requisite information about the Games that an athlete can use before and during the Games.
- Several Olympians including Srihari Nataraj and Dutee Chand participated in the Games and many other athletes are training for Olympics 2028.
- The Khelo India University Games is the biggest platform for University-level players and aims to provide a national-level reach for University students.
- The National Anti-Doping Agency (NADA) has used an App to share Information, Education and Communication with participating athletes so that they can be educated about doping.

Khelo India

- The Khelo India programme has been introduced in 2018, to revive the sports culture in India at the grass-root level by building a strong framework for all sports played in our country.
- Every year 1000 talented players are identified at various levels by the High-Powered Committee and are provided with the annual financial assistance of INR 5 lakh per annum for 8 years.
- To objectives of the Khelo India programme have been divided into:



E-SHRAM PORTAL

In News:

Registered workers at the e-shram portal to get the benefit of insurance cover.

Analysis of Background:

- The Ministry of Union Labour and Employment Ministry is working on a mechanism to process accident insurance claims by unorganised workers registered on the e-Shram portal
- More than 27 crore unorganised sector workers are registered on the portal.
- The portal was launched with the aim of creating a national database of unorganised workers and ensuring social security schemes for them.
- The workers would be eligible for ₹2 lakh as accident insurance.

- The scheme would allow the workers to get the direct benefit transfer (DBT) through an e-Shram unique ID number.

E-Shram Portal:

- The Ministry of Labour and Employment has developed the e-SHRAM portal for building a National Database of Unorganized Workers (NDUW).
- The Portal was developed with the aim of extending the benefits of the social security schemes to unorganized sector workers.
- It is the first-ever national database of unorganized workers including migrant workers, construction workers, gig and platform workers, etc.
- The following is required to register on the portal:
 - Aadhar Number
 - The mobile number is linked with Aadhaar
 - Savings Bank Account Number

Significance of e-Shram portal

- It created a centralized database of all unorganized workers including Construction Workers, Migrant Workers, Gig and Platform workers, Street Vendors, Domestic Workers, Agriculture Workers, etc.
- Improve the implementation efficiency of the social security services for the unorganized workers.
- Smooth Sharing of information in respect of registered unorganized workers with various stakeholders such as Ministries/ Departments/ Boards/ Agencies/ Organizations of the Central & State Governments.
- Portability of the social security and welfare benefits to the migrant and construction workers.
- It provides a comprehensive database to Central and State Governments for tackling any National Crises like COVID-19 in future.

INDIA-JAPAN RELATIONSHIP

In News:

- Recently, the 7th India-Japan information and communication technology (ICT) Joint Working Group meeting has been held virtually under India-Japan ICT Comprehensive Cooperation Framework. The meeting deliberated on the best practices and experience on Open RAN, Massive MIMO, Quantum Communications, Connected Cars, 5G Use cases and 6G Innovation.
- The 7th JWG agreed to enhance cooperation under the framework of the Memorandum of Cooperation (MoC) between India and Japan.

Analysis of Background:

India-Japan Digital Partnership

- In the view of growing Digital Partnership, both the sides aim to enhance the digital economy through the promotion of joint projects for digital transformation and also by providing opportunities for Indian IT professionals to work in Japan and Japanese companies by collaborating in the area of IoT, AI and other emerging technologies.
- The JWG discussions were focused on enhancing further cooperation in various fields like 5G, Open RAN, Telecom Network Security, submarine cable systems, and Quantum Communications.
- India and Japan share a common vision of a peaceful, stable and prosperous world and this has now taken the shape of a “Special Strategic and Global Partnership”.
- The year 2022 marks the 70th anniversary of India Japan Diplomatic relations, the ICT is being considered the key driver of cooperation between both countries to build a robust foundation for the present and future world.

Digital India:

- It was launched in 2015. The programme has been enabled for several important Government schemes, such as BharatNet, Make in India, Startup India and Standup India, industrial corridors, etc.
- Its vision is to transform India into a digitally empowered society and knowledge economy.
- Vision Areas:
 - Digital Infrastructure as a Core Utility to Every Citizen
 - Governance & Services on Demand
 - Digital Empowerment of Citizens

QUAD

In News:

- Amid the presence of Chinese aircraft south of Tokyo, all eyes are on the May 24 QUAD Summit to counter the growing naval challenge in the Indo-Pacific.
- While US Navy has upgraded all its warships at Yokosuka base in Japan, in terms of lethality and long reach, aircraft carrier INS Vikramaditya will get operational next month and India will be a two carrier and two ballistic missile submarine Navy by 2022-end.

About QUAD

- The Quadrilateral Security Dialogue colloquially known as the QUAD is an informal strategic forum comprising, the 4 nations: The United States of America (USA), India, Japan, and Australia.
- This group first interacted in 2007 on the sidelines of the Association of Southeast Asian Nations (ASEAN).
- It is considered as specific nations coming along to find a common ground in being democratic nations and their interest in maritime cooperation through trade and security.

QUAD Formation:

- The occurrence of a Tsunami in the Indian Ocean led to the formation of India, Japan, Australia, and the US to build an informal alliance for collaborating on disaster relief efforts.
- In 2007, The Prime Minister of Japan, Shinzo Abe, formalized it into the Quadrilateral Security Dialogue or the Quad.
- After facing a threat from China in 2017, the Quad expanded its objectives by creating a mechanism that determined to establish a rules-based international order.
- But in 2008, Australia left the group, whereas in 2020, the trio India-US-Japan did their first joint Malabar naval exercise by including Australia again.

QUAD Significance

- QUAD plays a significant role for India in countering Chinese influence, combating post covid diplomacy, providing security in the Indian ocean, and achieving a rule-based multipolar world.
- The objective behind the QUAD group is the initiative for strategic and significant sea routes in the Indo-Pacific region to be free from any influence.

QUAD Complications

- The problem for India, however, is that even with its renewed wariness about China, and the rebooting of the Quad, it has to weigh several long-standing and conflicting security, diplomatic, and economic calculations.
- India's vision of the Indo-Pacific rests more on the Indian Ocean and less on the Pacific Ocean, where Chinese assertiveness arouses the most concern from the United States, Australia, and Japan.
- India is uncomfortable with any conception of the Quad as an anti-China "alliance of democracies" (as U.S. President Joe Biden has put it).
- Any formal grouping of democracies through the Quad could raise expectations that it will be a vigorous proponent of promoting democracy abroad.

Relevance of AUKUS

- Recently, the US has announced a new trilateral security partnership for the Indo-Pacific, between Australia, the UK and the US (AUKUS). The major highlight of this arrangement is sharing US nuclear submarine technology with Australia.
- The announcement of AUKUS has underlined some of India's contradictions.
- The Quad is not an Asian North Atlantic Treaty Organization (NATO) and does not commit to collective security.
- For India, this means that the Quad can maintain its broad agenda—its recent summit highlighted cooperation on COVID-19 vaccine distribution, climate change, technology, and science expertise.
- The Quad is very important to India. It can provide a long-term strategy to deter China in the region, especially given that Chinese strategy, thus far, has been less about security encirclement and more about economic enmeshment.
- India is also very important to the Quad. A Quad without India would have less heft, less credibility in Asia, and would immediately lose the “Indo” in “Indo-Pacific.”

INDIA-NEPAL RELATIONS

In News:

- Prime Minister Narendra Modi is expected to visit Lord Buddha's birthplace Lumbini district of Nepal for Buddha Purnima.
- The focus on Lumbini has been part of the "Buddhist Circuit" vision of the Indian government, which has presented India as the land of the Buddha. India has been focusing on the Buddhist community worldwide as part of its soft power diplomacy.

Analysis of Background:

India-Nepal Relation

- Nepal is an important neighbour of India and occupies a special significance in its foreign policy because of the geographic, historical, cultural and economic linkages/ties that span centuries.
- India and Nepal share similar ties in terms of Hinduism and Buddhism with Buddha's birthplace Lumbini located in present-day Nepal.
- The India-Nepal Treaty of Peace and Friendship of 1950 forms the bedrock of the special relations that exist between India and Nepal.
- India is Nepal's largest trade partner and the largest source of foreign investments, besides providing transit for almost the entire third-country trade of Nepal.
- India-Nepal has undertaken various connectivity programs to enhance people-to-people linkages and promote economic growth and development.
- Bilateral defence cooperation includes assistance to the Nepalese Army in its modernization through the provision of equipment and training.
- India has signed three sister-city agreements for twinning Kathmandu-Varanasi, Lumbini-Bodhgaya and Janakpur-Ayodhya.

NORTH ATLANTIC TREATY ORGANISATION

In News:

- Finland's president and Prime Minister (PM) called for the country to apply for NATO membership "without delay". It comes amid a surge in public support for NATO membership following Russia's invasion of Ukraine.

- Finland shares a 1,300-km (810-mile) border with Russia. Until now, it has stayed out of NATO to avoid antagonising its eastern neighbour. Russia has said it will be forced to take "retaliatory steps" over its neighbour Finland's move to join NATO.

Analysis of Background:

About NATO

- The North Atlantic Treaty Organization is a military alliance created in 1949.
- Aim: to provide collective security against Soviet expansionism and to encourage European political integration in the aftermath of World War II.
- It serves as a collective security system, wherein its member states agree to mutually defend any attack on a member party.
- Membership: 30 countries are currently part of NATO. Two countries in North America and 28 European countries, including several former Soviet nations.

UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION

In News:

- The Union Minister for Environment, Forest and Climate Change Bhupendra Yadav has reached Abidjan, Cote D Ivoire to attend the Conference of Parties, 15th meeting of the United Nations Convention on Combating Desertification (UNCCD COP15) from 9th May to 20th May 2022.

Analysis of Background:

Agenda for COP15

- The fifteenth session of the Conference of the Parties (COP15) of the United Nations Convention to Combat Desertification (UNCCD) at Abidjan, Côte d'Ivoire, from 9 to 20 May 2022, will bring together leaders from governments, the private sector, civil society and other key stakeholders from around the world to drive progress in the future sustainable management of land and will explore links between land and other key sustainability issues.
- For the first time, an Intergovernmental Working Group (IWG) on effective policy and implementation measures for addressing drought under the

United Nations Convention for Combatting Desertification (UNCCD) was established by decision 23/COP.14. A draft report has been prepared and will be discussed during the current session of COP15.

- Drought, land restoration, and related enablers such as land rights, gender equality and youth empowerment are among the top items on the Conference agenda. Through its decisions adopted by UNCCD's 197 Parties, COP15 is expected to galvanize sustainable solutions for land restoration and drought resilience, with a strong focus on future-proofing land use.

India and UNCCD:

- India hosted COP 14 of UNCCD in 2019 in New Delhi and is also the current president (took over from China) of UNCCD.
- COP 14 was attended by Prime Minister Narendra Modi and he announced that India would raise its ambition of the total area that would be restored from its land degradation status, from twenty-one a million hectares to twenty-six million hectares between now and 2030.
- The above vision will be achieved by restoring land productivity and the ecosystem of 26 million hectares of most degraded and vulnerable land, with major emphasis on the degraded agricultural, forest and other wastelands by adopting a landscape restoration approach.
- India during its presidency has made a significant contribution in bringing the nations together towards the global goal of halting and reversing land degradation.
- A High-level Dialogue of the United Nations General Assembly held on 14th June 2021 on desertification, land degradation and drought, was addressed by Prime Minister of India, Shri Narendra Modi wherein he highlighted the success stories and initiatives taken by India to combat land degradation.
- In another significant development during India's presidency, G-20 leaders recognizing the importance of combating land degradation and creating new carbon sinks, put up an aspirational goal to collectively plant 1 trillion trees, urging other countries to join forces with G20 to reach this global goal by 2030.

About UNCCD:

- The United Nations Convention to Combat Desertification (UNCCD) was established in 1994 to protect and restore land and ensure a safer, just, and more sustainable future.
- The UNCCD is the only legally binding framework set up to address desertification and the effects of drought.
- There are 197 Parties to the Convention, including 196 country Parties and the European Union.
- The Convention – based on the principles of participation, partnership and decentralization – is a multilateral commitment to mitigate the impact of land degradation, and protect land to provide food, water, shelter and economic opportunity to all people.
- The Convention unites governments, scientists, policymakers, the private sector and communities around a shared vision to restore and manage the world's land.
- This work is crucial to ensure the sustainability of the planet and the prosperity of future generations.

About COP

- The Conference of the Parties (COP) was established by the Convention as its main decision-making body.
- COP is mandated to review reports submitted by the Parties detailing how they are carrying out their Land Degradation Neutrality (LDN) commitments and make recommendations based on these reports.
- The COP has been meeting biennially since 2001 and has held 14 sessions

UNITED NATIONS SECURITY COUNCIL (UNSC)

In News:

- First time since the Russian invasion of Ukraine, the UNSC has expressed “deep concern” over the “maintenance of peace and security” in Ukraine and backed efforts by Secretary-General Antonio Guterres to find a peaceful solution.

Analysis of Background:

India's stand on the Russian invasion

- India's Permanent Mission to UN, 'Pratik Mathur', maintained that 'India stressed on the path of diplomacy and dialogue for peace in Ukraine should be the only viable option.'

About UNSC

- The UNSC is one of the five organs of the United Nations. Other are the General Assembly (UNGA), the Trusteeship Council, the Economic and Social Council, the International Court of Justice, and the Secretariat.
- The UNSC was established in 1945 and its primary responsibility is to work to maintain international peace and security.
- The council is headquartered in New York.
- The council is composed of 15 members: the five permanent members also known as P5 Nations and ten non-permanent members elected for two-year terms.
- Each member of the Security Council has one vote. Decisions of the Security Council on matters are made by an affirmative vote of nine members including the concurring votes of the permanent members. A "No" vote from one of the five permanent members blocks the passage of the resolution.
- India has played its part in formulating decisions on several issues such as admitting former colonies to the UN, addressing deadly conflicts in the Middle East and maintaining peace in Africa.

G20 CO-OPERATION

In News:

- External Affairs Minister S. Jaishankar met with Italian Foreign Minister Luigi Di Maio in Delhi as India's effort for closer ties with Europe continues.

Analysis of Background:

- The Ukraine crisis, climate change collaboration, and space cooperation between the two nations were all high on the agenda, as they were during Prime Minister Narendra Modi's journey to Germany, France, and Denmark for the Nordic Summit.

What is G20?

- It is an informal club comprising 19 nations and the European Union (EU), as well as officials from the World Bank and the International Monetary Fund.
- There is no fixed secretariat or headquarters for it.
- The members include a mix of the world's greatest advanced and emerging nations, accounting for over two-thirds of the global population, 80 percent of global GDP, 80 percent of worldwide investment, and over 75 percent of global commerce.
- Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States, and the European Union are among its members.
- Each G20 country is represented by a Sherpa, who works on behalf of the country's leader to organise, guide, and implement projects.

How did G20 evolve?

- The G20's status as the primary crisis management and coordinating group was solidified during the Global Financial Crisis (2007-08).
- The conference of Finance Ministers and Central Bank Governors was raised to Heads of State by the United States, which held the G20 presidency in 2008.

- The summits in Washington, DC, London, and Pittsburgh laid the groundwork for some of the world's greatest long-lasting reforms:
- Implementing stricter controls on hedge funds and rating agencies, making the Financial Stability Board an effective supervisory and watchdog body for the global financial system, proposing stricter regulations for too-big-to-fail banks, and refraining members from imposing new trade barriers, among other things.
- The G20 had strayed from its initial objective by the time Covid-19 struck, and it had lost its concentration.
- Climate change, employment and social security challenges, inequality, agriculture, migration, corruption, terror funding, drug trafficking, food security and nutrition, disruptive technologies, and attaining the Sustainable Development Goals have all been added to the G20 agenda.
- G20 nations have made all the correct pledges in the aftermath of the epidemic, but there has been little action.
- They set four goals for the Riyadh Summit in October 2020:
 - combating the pandemic,
 - securing the global economy,
 - resolving international trade disruptions, and
 - increasing global collaboration.
- In 2021, the Italian Presidency focused on three broad, interrelated pillars of action: People, Planet, and Prosperity, committing to lead the worldwide response to the epidemic.
- Despite millions of fatalities, the G20 nations have refused to provide developing countries the legal authority to make vaccines.

ILO REPORT

In News:

- Recovery in the global labour market is threatened by multiple and interlinked global crises, as well as increasing inequalities, according to the latest ILO ninth edition of the Monitor on the world of work.

Analysis of Background:

Key findings of the report

- Multiple global crises are causing a marked deterioration in the global labour market recovery, with increasing inequalities within and between countries.
- After the significant gains during the last quarter of 2021, the number of hours worked globally dropped in the first quarter of 2022, to 3.8 per cent below the pre-crisis benchmark (fourth quarter of 2019).
- Multiple new and interconnected global crises, including inflation (especially in energy and food prices), financial turbulence, potential debt distress, and global supply chain disruption – exacerbated by war in Ukraine – means there is a growing risk of a further deterioration in hours worked in 2022, as well as a broader impact on global labour markets in the months to come.
- While high-income countries experienced a recovery in hours worked, low- and lower-middle-income economies suffered setbacks in the first quarter of the year with a 3.6 and 5.7 per cent gap respectively when compared to the pre-crisis benchmark. These diverging trends are likely to worsen in the second quarter of 2022.
- In some developing countries, governments are increasingly constrained by the lack of fiscal space and debt sustainability challenges, while enterprises face economic and financial uncertainties and workers continue to be left without sufficient access to social protection.
- 30-60% of workers – five crore people – who lost jobs during the lockdown have not joined any work.
- The women's employment in India has come down, particularly in sectors such as healthcare as a result of the pandemic.

About ILO

- It was created in 1919, as part of the Treaty of Versailles that ended World War I, to reflect the belief that universal and lasting peace can be accomplished only if it is based on social justice.
- The Organization has played a role at key historical junctures – the Great Depression, decolonization, the creation of Solidarność in Poland, the victory over apartheid in South Africa – and today in the building of an ethical and productive framework for fair globalization.
- The driving forces for the ILO's creation arose from security, humanitarian, political and economic considerations.
- It is the only tripartite U.N. agency. It brings together governments, employers and workers of 187 member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men. Its headquarters are in Geneva, Switzerland.

WORLD ECONOMIC FORUM

In News:

- The Union Minister of Commerce and Industry, Piyush Goyal is set to lead the team India at the World Economic Forum (WEF) in Davos.
- The minister will also be visiting the United Kingdom (UK) to hold discussions with UK Government and Businesses on the progress made in Free Trade Agreement (FTA) negotiations and the way forward.

Analysis of Background:

- With India assuming the G-20 presidency in 2023, the event with WEF will help reinforce India's position as an important and relevant stakeholder in shaping the global narrative.
- The forum will also be a platform to project India as an attractive investment destination given its robust economic growth and stable macroeconomic indicators.
- The year 2022 also coincides with the WEF's 50th anniversary and 35 years of the Forum's collaboration with India which would provide an opportunity for India to showcase its unified presence including the centre and states.

- To mark 75 years of Independence and 'Azaadi ka Amrit Mahotsav', DPIIT has taken the initiative to have a consolidated marquee India presence at World Economic Forum, Davos.

About the meeting

- The World Economic Forum (WEF) returns for its annual meeting in Davos, Switzerland from May 22 to 26.
- Under the theme, Working Together, restoring Trust, the Annual Meeting 2022 will be the first global in-person leadership event since the start of the pandemic.
- The meeting will allow the world leaders to take stock of the state of the world and shape partnerships and policies for the crucial period ahead.
- Due to the outbreak of the Omicron variant, the WEF deferred its 2022 annual meeting, which was originally scheduled for January 17-21.

About WEF

- It was established in 1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland.
- The World Economic Forum is the International Organization for Public-Private Cooperation.
- The Forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas.
- The Forum strives in all its efforts to demonstrate entrepreneurship in the global public interest while upholding the highest standards of governance.

Association of Southeast Asian Nations (ASEAN)

In News:

The Association of Southeast Asian Nations (ASEAN) held a conference in Phnom Penh, Cambodia, on May 6 in a renewed effort to organise humanitarian aid for Myanmar's strife-torn country.

Analysis of Background:

- High-level delegates from Myanmar and the other nine ASEAN member states, as well as foreign partners, UN specialised agencies, and other international organisations, are attending the hybrid conference, which some participants joined by video. Cambodia is the current ASEAN Chair.

Why was the meeting held?

- The conference is part of an effort to resurrect an ASEAN five-point agreement on Myanmar that was struck in April of last year.
- The endeavour is in reaction to the bloodshed that has rocked Myanmar since the military seized control from Aung San Suu Kyi's civilian administration in February 2021 and used brutal force to suppress opposition to the coup.

What is the reaction of Myanmar?

- The agreement asks for an immediate halt to violence, a conversation between all parties involved, mediation by an ASEAN special envoy, humanitarian relief, and a visit to Myanmar by the special envoy to meet with all parties involved.
- Myanmar agreed to the agreement but has made no effort to put it into practise.
- As a result of its obstructionism, Myanmar's leaders have been barred from attending important ASEAN meetings since last October.
- At the same time, armed opposition to military authority has grown to the point where some United Nations experts believe the country has devolved into civil war.
- Myanmar's military has started large-scale operations across the country, including air strikes, resulting in large-scale displacement.

- The United Nations' 2022 Humanitarian Response Plan aims to reach a record 6.2 million people and will cost \$826 million, according to the international organisation.
- It is now barely 4 percent financed, according to the report. Any attempt to execute the five-point agreement, according to critics of Myanmar's military administration, is a waste of time.

What is ASEAN?

- The Association of Southeast Asian Nations (ASEAN) is a regional organisation that was founded to maintain political and social stability among Asia's post-colonial governments amid escalating tensions.
- "One Vision, One Identity, One Community" is ASEAN's slogan.
- The 8th of August is ASEAN Day.
- Jakarta is home to the ASEAN Secretariat.
- The objectives of ASEAN are:
 - For a successful and peaceful Southeast Asian community, to accelerate economic growth, social improvement, and cultural development.
 - To promote regional peace and stability via a commitment to justice and the rule of law, as well as adherence to the United Nations Charter's ideals.
 - To encourage active collaboration and mutual support in the economic, social, cultural, technological, scientific, and administrative spheres on subjects of common concern.
 - To work together more effectively to maximise the use of agriculture and industry, expand commerce, enhance transportation and communications, and raise people's living standards.
 - To encourage the study of Southeast Asia.
 - Maintaining tight and mutually beneficial relationships with current international and regional organisations.

INDIA-NORDIC SUMMIT

In News:

- On May 4, 2022, Prime Minister Narendra Modi took part in the 2nd India-Nordic Summit.
- The conference was also attended by the prime ministers of Denmark, Iceland, Finland, Sweden, and Norway.
- Denmark is the host country for the summit.

Analysis of Background;

- The first India-Nordic Summit was held in Stockholm in 2018.
- The second summit, which was originally slated for June 2021, has been rescheduled.
- The six nations' commitment to global security, economic growth, innovation, and climate change was reaffirmed at the 2018 India-Nordic Summit.

Why Nordic countries are important for India?

- The Nordic countries have a combined economy of more than \$1.6 trillion.
- India and the Nordic nations have a total trade volume of \$13 billion in products and services.
- All of these nations are among the highest achievers in a variety of fields, including innovation, renewable energy, green technology, and education.

What is the significance?

- The importance of this gathering for India may be gauged by the fact that the United States is the only other country with which the Nordic states have a summit-level relationship.
- The India Nordic Summit contributes to the expansion of India's diverse collaboration with the Nordic area.
- The topics discussed at this year's conference included post-pandemic economic recovery, climate change, innovation and technology, renewable energy, the developing global security picture, and India-Nordic collaboration in the Arctic.

- In the areas of sustainability, renewable energy, digitalisation, and innovation, the Nordic nations are essential partners for India.
- The Summit's main focus was on how to go forward with the bilateral engagement agenda between India and the Nordic nations.

G-7 COUNTRIES

In News:

- In the wake of the Russian-Ukraine war, the demand for Indian wheat increased overseas. Whereas, wheat production in India is expected to be lower this Rabi season.
- India, due to lower production and higher demand from private buyers, the world's second-largest producer of wheat banned wheat exports.
- The issue of India's wheat export ban is likely to dominate the upcoming G-7 summit and global food security meeting at United Nations (UN).

Analysis of Background:

Why did India ban wheat exports?

- The reasons given were runaway inflation and food security of 1.4 billion people.
- Some parts of India, have seen prices of wheat and flour jump 20 to 40 per cent in recent weeks.
- Because of the sharp rise in global prices, some farmers were selling to traders and not to the government.
- This got the government worried about its buffer stock of almost 20 million tonnes -- depleted by the pandemic -- needed for handouts to millions of poor families and to avert any possible famine.
- Low production due to heatwaves. India recorded its warmest March on record -- blamed on climate change -- and in recent weeks has seen a scorching heatwave with temperatures upwards of 45 degrees Celsius (113 Fahrenheit).
- This hit farmers in wheat-producing northern India, prompting the government to predict output would fall at least five per cent this year from 109 million tonnes in 2021.

India as a wheat exporter

- India is a marginal player globally and produces mostly for domestic consumption, and almost half its exports last year went to Bangladesh.
- India's exports have been limited over quality concerns and World Trade Organisation (WTO) rules about grain purchased by the state.

About G7

- It is an intergovernmental organization consisting of Britain, the US, Canada, France, Germany, Italy and Japan.
- The heads of government of the member states, as well as the representatives of the European Union, meet at the annual G7 Summit.
- G7 represents 58% of the global net wealth (\$317 trillion), more than 46% of the global gross domestic product (GDP) based on nominal values, and more than 32% of the global GDP based on purchasing power parity.
- The seven countries involved are also the largest IMF-advanced economies in the world.

GLOBAL NETWORK AGAINST FOOD CRISES

In News:

- According to a recent research issued on May 4, 2022, 40 million more individuals worldwide faced acute food insecurity at crisis or worse levels in 2021 than in 2020.
- Over half a million people (570,000) in Ethiopia, southern Madagascar, South Sudan, and Yemen are in the most serious stage of acute food crisis.
- According to the research of the Global Network Against Food Crises, immediate action is needed to prevent widespread collapse of livelihoods, famine, and death for these half a million people (GNAFC).

Analysis of Background:

What is GNAFC?

- The GNAFC is a global partnership of the United Nations, the European Union, and governmental and non-governmental organisations to combat food insecurity.

- In 2021, about 193 million individuals in 53 countries and territories had severe food insecurity at crisis or worse levels, according to the paper.

What are the main drivers?

- According to the research, there were three primary causes of food insecurity.
- The first was a disagreement.
- The study was completed before Russia invaded Ukraine on February 24, 2022.
- However, it was discovered that violence has put 139 million people in 24 countries/territories at danger of starvation.
- This is an increase from the 99 million people who lived in 23 countries or territories in 2020.
- Another cause was weather extremes,
- This forced over 23 million people in eight countries / territories into acute food insecurity, up from 15.7 million in 15 countries / territories in 2020.
- Economic disruptions were a third factor.
- Due to economic shocks, over 30 million people in 21 countries/territories experienced severe food insecurity in 2021, down from over 40 million people in 17 countries/territories in 2020.

According to the statement, the analysis underlined the need to prioritise smallholder agriculture as a frontline humanitarian response, overcoming access barriers, and as a strategy for reversing unfavourable long-term trends.

TOPIC: SOCIAL ISSUES

MINORITY TAG

In News:

The Union Government has changed the stand on state's jurisdiction to declare minority status tag.

Analysis of Background:

- The Union Government has earlier stated in the Supreme Court that the "States can also declare a religious or linguistic community as a minority community within the said State,"
- Now the Union Government has changed its stand in the Supreme Court and said that only the centre has the power to notify minority communities.
- The National Commission for Minorities Educational Institutions Act, 2004, and the National Commission for Minorities Act, 1992, respectively, passed by Parliament, empowered the Centre to notify a minority community.

National Commission for Minorities

- Under the National Commission for Minorities Act of 1992, the Union Government has established the National Commission for Minorities (NCM) to protect and promote the welfare of the 6 religious minorities' communities.
- Muslims, Christians, Sikhs, Buddhists, Zoroastrians (Parsis) and Jains have been notified as minority communities by the Union Government at the national level.
- The original notification of 1993 was for 5 religious communities; Sikhs, Buddhists, Parsis, Christians and Muslims.
- In 2014, the Jains community was also added.
- As per Census 2001, these six communities consist of 18.8% of the country's population.
- The National Commission for Minorities (NCM) is in line with the United Nations Declaration of 1992 which states that "States shall protect the existence of the National or Ethnic, Cultural, Religious and Linguistic identity

of minorities within their respective territories and encourage conditions for the promotion of that identity.”

- Composition
 - A Chairperson
 - Five members are to be nominated by the Central Government from amongst persons of eminence, ability and integrity. ;
 - All the members shall be from the minority communities.

Functions and Power of the Commission

- To evaluate the progress of the development of Minorities under the Union and States.
- To monitor the working of the safeguards provided in the Constitution and laws enacted by Parliament and the State Legislatures.
- To make recommendations for the effective implementation of safeguards for the protection of the interests of Minorities by the Central Government or the State Governments.
- To look into specific complaints regarding deprivation of rights and safeguards of the Minorities and take up such matters with the appropriate authorities.
- To conduct studies, research and analysis on the issues relating to the socio-economic and educational development of Minorities.
- Make periodical or special reports to the Central Government on any matter relating to Minorities and in particular the difficulties confronted by them.
- Any other matter which may be referred to by the Central Government.

Minority Communities in India

- The Constitution of India does not define the term minority.
- The distinctiveness of a numerically inferior group is certainly recognised as a legal criterion to determine the minority status of any community.
- As per the Census 2011, the percentage of minorities in the country is about 19.3% of the total population of the country.
- The population of Muslims are 14.2%; Christians 2.3%; Sikhs 1.7%, Buddhists 0.7%, Jain 0.4% and Parsis 0.006%.

- The Union Government notified minority communities at the national level in consultation with various stakeholders under Section 2 (c) of the National Commission for Minorities (NCM), Act, 1992.
- The 6 communities notified as minority communities under Section 2(c) of the NCM Act, 1992 are Christians, Sikhs, Muslims, Buddhists, Parsis and Jains.
- Notification of any community-specific to a State as a minority community within a State comes under the purview of the State concerned.
- Articles 29 and 30 of the Indian Constitution provide for the protection of the interests of minorities which includes linguistic minorities also.
- The working definition followed by the Commissioner for linguistic minorities is as follows:-
 - Linguistic Minorities are groups or collectivises of individuals residing in the territory of India or any part and having a distinct language or script of their own.
 - The language of the minority group need not be one of the twenty-two languages mentioned in the Eighth Schedule of the Constitution.
 - In other words, linguistic minorities at the State level mean any group or groups of people whose mother tongues are different from the principal language of the State, and at the district and taluka/tehsil levels, different from the principal language of the district or taluka/tehsil concerned.
 - The interests of linguistic minorities are accorded due consideration and the office of the Commissioner of Linguistic Minorities has been mandated to investigate all matters relating to the safeguards provided for linguistic minorities in the country.
- The Government has Constituted National Commission for Minorities under the National Commission for Minorities (NCM) Act, 1992.
 - The NCM receives petitions/grievances from the aggrieved persons and the said petitions/grievances being received by Commission are dealt with by calling for reports from the concerned authorities under the Union and State Governments.

- Upon receipt of the reports, the Commission makes appropriate recommendations to the respective authorities for the Redressal of the grievances.

PRESS FREEDOM

In News;

India ranked 150th in the World Press Freedom Index 2022.

Analysis of Background:

- India ranked 150th in the World Press Freedom Index 2022, last year it was 142 out of 180 countries.
- Except for Nepal (76th rank) and Srilanka (146th rank) all the neighbouring countries performed poorly than India.
- The report was released by Reporters without Borders.
- Norway (1st) and Denmark (2nd), while North Korea remained at the bottom of the list of the 180 countries.
- The Report stressed that the Indian authorities should respect the right to freedom of expression and release journalists' detained due to politically motivated charges for their critical reporting and stops targeting them and promotes independent media.

Significance of Media

- Media refers to all means of Communication, everything ranging from a Phone Call to the news on TV.
- TV, radio and newspapers are a form of media. Since they reach millions of people across the world they are Called Mass Media.
- A balanced report is essential in media which has to report independently.
- Media plays a very important role in providing news and discussing events taking place in the Country and the world.
- News Stories in the media inform people about important events in the Country.
- Media by focusing on particular issues influences and Shapes our thoughts. It is said the media sets the agenda for People.

- Opinions, attitudes, and Conduct of persons are dependent upon the information available to them.
- Most of our knowledge of Contemporary events comes to us from newspapers, Radio, Television and movies.
- Our emotions and attitudes are also formed or influenced to a large extent by the media.
- The media tell us about the working of the Government and create awareness about the welfare programmes.

Concern

- The media is far from being independent. This is because of the Control of Government over the media Called Censoring and because big business houses Control the media.
- Corporate Funding - A lot of money is spent on maintaining People and getting the latest technology. To meet this Cost, it needs money.
- Media, therefore, uses advertising as a tool to raise revenue.
- Manipulating News for TRPs is not only a financial scam but also morally and ethically wrong.
- Some Channels are spreading a hate narrative which is a violation of the fundamental right of the citizen to know the truth through the media.
- The media has become a source of disinformation, and this is also an ethical issue.
- Both legal and ethical dimensions are equally serious

UJJWALA DIWAS

In News:

The Ministry of Petroleum and Natural Gas organised more than 5000 LPG panchayats on the occasion of Ujjwala diwas on 1st May 2022.

Analysis of Bacjground:

- The Ujjwala Yojana was launched by the Prime Minister on 1st May 2016 at Ballia, Uttar Pradesh.

- The Ministry of Petroleum and Natural Gas (MoPNG) has decided to celebrate 1st May 2022 as Ujjwala Diwas.
- The Pradhan Mantri Ujjwala Yojana (PMUY) aims to provide free LPG connection to every BPL household.

About Pradhan Mantri Ujjwala Yojana (PMUY)

- The Ministry of Petroleum and Natural Gas introduced the 'Pradhan Mantri Ujjwala Yojana' or Ujjwala yojana in 2016.
- The objective of the programme was to make clean cooking fuels such as LPG available to rural and deprived households.
- Applicants can apply both online and offline.
- The target was to provide 8 Crore LPG Connections to the deprived households by March 2020.
- New connections with government support of Rs 1,600 per connection can be released only in the name of adult female members of the Poor household.
- All PMUY beneficiaries will be provided with the first LPG refill and Stove (hotplate) both free of cost along with their deposit free connection by the Oil Marketing Companies (OMCs).
- The connection released under PMUY will be eligible to receive subsidies for domestic LPG Cylinders (maximum 12 cylinders in a year) of 14.2 kg cylinders each.

Eligibility under PMUY

- An adult woman belonging to a poor household and not having an LPG connection in her household will be eligible.
- The beneficiaries should belong to any of the following categories:
 - Eligible as per Socio Economic and Caste Census (SECC) 2011.
 - Belongs to SC/ST households.
 - The beneficiary of Pradhan Mantri Awas Yojana (PMAY), Antyodaya Anna Yojana (AAY).
 - Forest dwellers, Most Backward Classes,
 - Tea and Ex-Tea Garden Tribes, People residing in river Islands (Beneficiary will submit supporting documents).

- If she is not falling in the above 2 categories, then she can get benefits under the Poor household categories by submitting a 14-point declaration.

Ujjwala 2.0

- The Prime Minister launched the second phase of the Pradhan Mantri Ujjwala Yojana or Ujjwala cooking gas scheme in August 2021.
- Ujjwala 2.0 now aims to cover 10 million more beneficiaries in the second phase of the scheme. Union Budget 2021-22, has decided to extend Pradhan Mantri Ujjwala Yojana to provide additional 1 Crore LPG connections, with a special focus on migrant families.
- Under Ujjwala 2.0, migrant workers can get a free cooking gas connection on the basis of a self-declaration without any need for documents like address proof.
- It aims to provide a deposit-free LPG connection to low-income families who could not be covered under the first phase of PMUY.
- The beneficiaries will also get a stove (free of cost).
- Under the scheme, the first gas cylinder is free, but consumers need to pay for the next cylinders.
- Cash assistance of Rs 1,600 for a PMUY connection is provided by the government.

Achievements of Pradhan Mantri Ujjwala Yojana

- The Programme helped in increasing the LPG coverage from 62% on 1st May 2016 to 99.8% on 1st April 2021.
- Approx 1 lakh people got employment opportunities through the LPG distribution network.
- As part of the Pradhan Mantri Garib Kalyan Package, more than 14 crores of free LPG cylinder refills were provided to the PMUY beneficiaries during COVID-19.

Significance of Pradhan Mantri Ujjwala Yojana

- In the past, LPG connection was considered an urban product, but PMUY ensured that LPG is easily available to the poor people living in the villages as well.

- The Usage of traditional cooking fuels such as firewood, coal, cow-dung cakes etc, had negative impacts on the health of rural women as well as on the environment.
- This programme is promoting Women's empowerment
 - Connections are provided in the name of the adult female of the family.
 - Women are now getting extra time that they used to spend on collecting firewood and making cow dung, they could utilize this extra time in learning new skills and creating more economic opportunities for them.
 - Negative health impacts due to the burning of firewood and cow dung are now eliminated.
 - Positive health impact women and other family members, this also promotes mental and physiological well being.
 - Female students used to help their mothers in the task of collecting firewood and making cow dung. While fulfilling these family responsibilities they miss the learning opportunities, but now they could utilize the full potential of their learning opportunities.

Challenges:

- There are still many families who are yet to get LPG connection. There are serious health hazards associated with cooking based on fossil fuels.
- Increasing the cost of LPG Cylinders is a challenge for the success of the scheme, as it disincentivizes the user for refilling cylinders and shifting back to fuel wood and cow dung.
- According to the report of the World Health Organization, every year about 5 lakh deaths in India alone are due to unclean cooking fuels.
- Most of these premature deaths were due to non-communicable diseases such as heart disease, respiratory disease and lung cancer.
- Indoor air pollution is also responsible for respiratory illnesses in young children.
- According to experts, having an open fire in the kitchen is like burning 400 cigarettes an hour.

GENERAL STUDIES – 3

TOPIC: ECONOMY

V SHAPED ECONOMIC RECOVERY

In News:

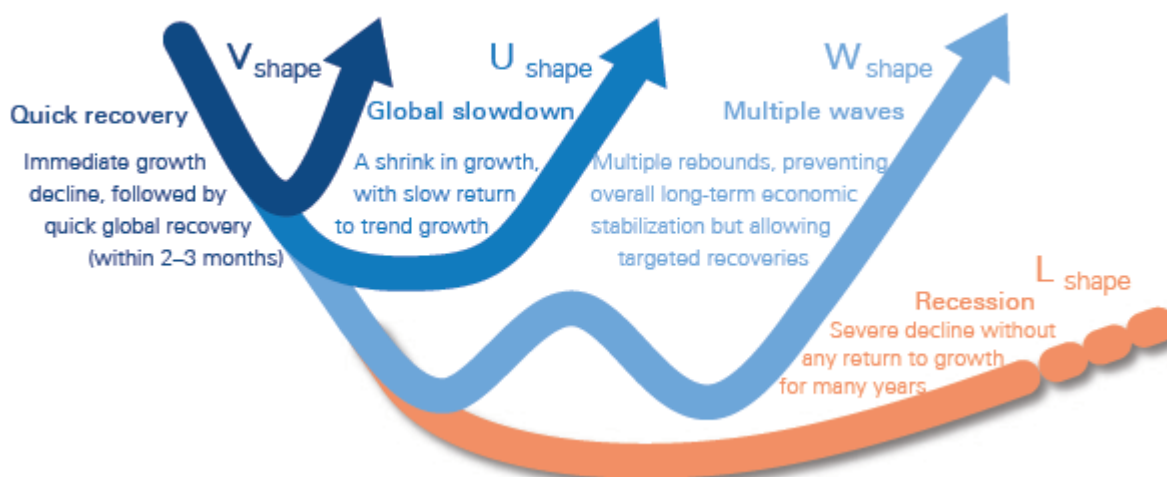
- Indian economy witnessing V-shaped recovery after pandemic: Defence Minister Rajnath Singh.

Analysis of Background:

SHAPES OF ECONOMIC RECOVERY

- Economic recovery can take many forms, which is depicted using alphabetic notations. For example V-shaped recovery, U-shaped recovery, elongated U-shaped recovery, W-shaped recovery and L-shaped recovery.
- The fundamental difference between the different kinds of recovery is the time taken for economic activity to normalize.
- In this article, let's try to take a brief look how L, V, U & W Shaped economic recovery compare.

Four scenarios for economic development

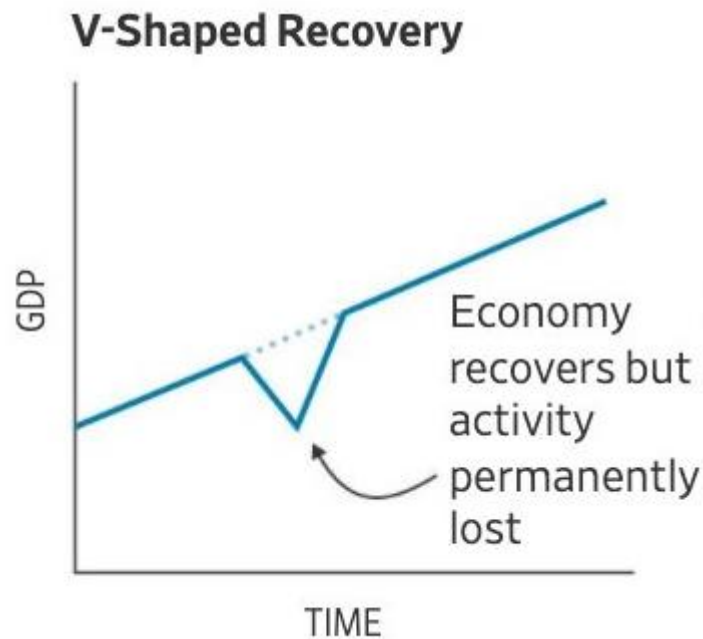


V-shaped

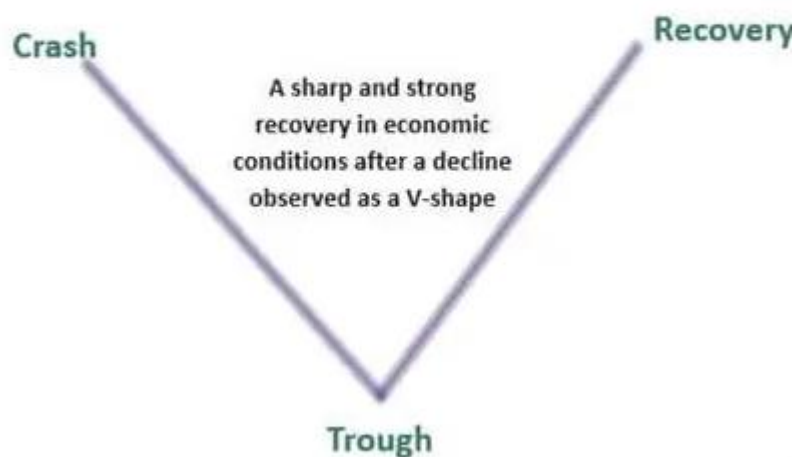
A V-shaped recovery is a quick, sharp improvement in an economy after a sharp decline. On a graph of gross domestic product (GDP) over time, the decline forms

the left side of the letter V. The recession is the point at the bottom, then rapid improvement from that point forms the right side of the letter V.

A V-shaped recovery usually characterizes a recovery after a recession caused by a one-time shock. As a consumer, business-owner, investor, or other participant in the economy, it helps to understand how a V-shaped recovery works.



V-Shaped Recovery



- A V-shaped recovery in an economy can happen due to a number of factors, including monetary policies and unpredictable environmental or political

conditions. Economic downturns, in general, can happen due to a variety of reasons.

- These include events that are hard to prepare for, like war, a pandemic, or natural disasters. When occurrences like these happen, they can cause severe disturbances to important economic indicators and factors such as:
 1. Gross domestic product (GDP)
 2. Stock indexes
 3. Income
 4. Employment
 5. Manufacturing
 6. Retail sales

Example – Covid-19 Pandemic of 2020

The Covid-19 Pandemic of 2020 caused several indicators in nearly all countries to plummet as the world was forced to shut its doors. This led to severe declines in things like industrial production, employment, and GDP.

One can identify a V-shaped recovery by the sharp correction in these economic factors, signaling that the economy is recovering rapidly. The correction will be sharp. As the economy finds a floor or bottom, indicators will bounce and correct to levels achieved before the event occurred.

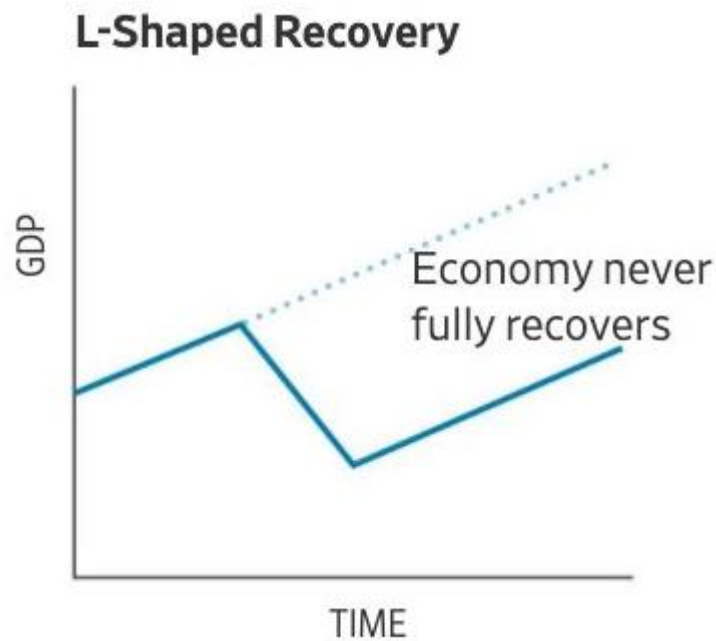
The Recession of 1953

The recession of 1953 in the United States is another clear example of a V-shaped recovery. This recession was relatively brief, and mild with only a 2.2% decline in GDP and unemployment rate of 6.1%. Growth began to slow in the third quarter of 1953, but by the fourth quarter of 1954 was back at a pace well above the trend. Therefore, the chart for this recession and recovery would represent a V-shape.

For an economy to achieve a V-shaped recovery, it often takes aggressive actions from the government and, in many instances, the private sector. Therefore, a V-shaped recovery is a best-case scenario for an economy to recuperate the losses and continue to grow and expand.

L-shaped recovery:

An L-shaped recovery is a type of recovery characterized by a slow rate of recovery, with persistent unemployment and stagnant economic growth. L-shaped recoveries occur following an economic recession characterized by a more-or-less steep decline in the economy, but without a correspondingly steep recovery.



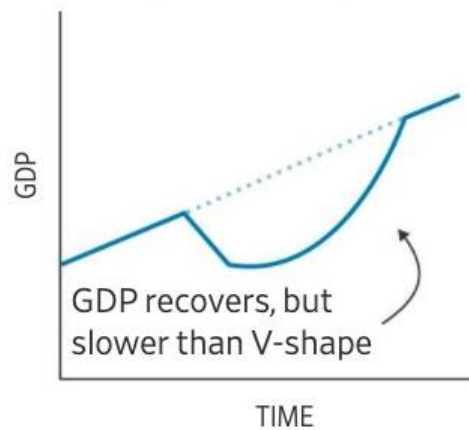
Example – Lost decade in Japan

What is known as the lost decade in Japan is widely considered to be an example of an L-shaped recovery. Leading up to the 1990s, Japan was experiencing remarkable economic growth. In the 1980s, the country ranked first for gross national production per capita. During this time, real estate and stock market prices were quickly rising. Concerned about an asset price bubble, the Bank of Japan raised interest rates in 1989. A stock market crash followed, and annual economic growth slowed from 3.89 percent to an average of 1.14 percent between 1991 to 2003.

U-shaped recovery:

A U-shaped recovery describes a type of economic recession and recovery that charts a U shape, established when certain metrics, such as employment, GDP, and industrial output sharply decline and then remain depressed typically over a period of 12 to 24 months before they bounce back again.

U-Shaped Recovery

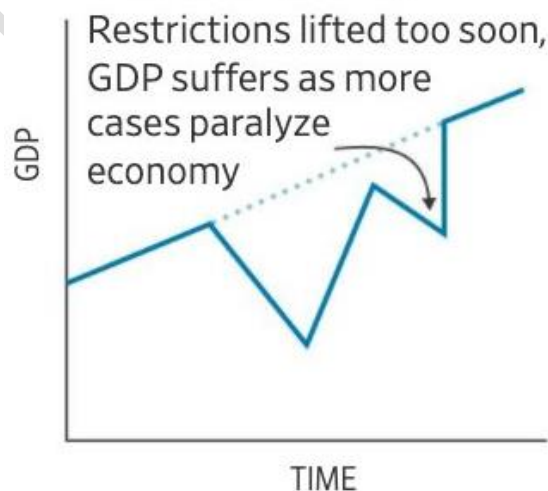


Examples of U-shaped recoveries are the 1973-75 Nixon recession and the 1990-91 recession following the S&L crisis in US.

W-shaped Recovery:

A W-shaped recovery is when an economy passes through a recession into recovery and then immediately turns down into another recession. A W-shaped recovery involves a sharp decline in these metrics followed by a sharp rise back upward, followed again by a sharp decline and ending with another sharp rise. The middle section of the W can represent a significant bear market rally or a recovery that was stifled by an additional economic crisis.

W-Shaped Recovery

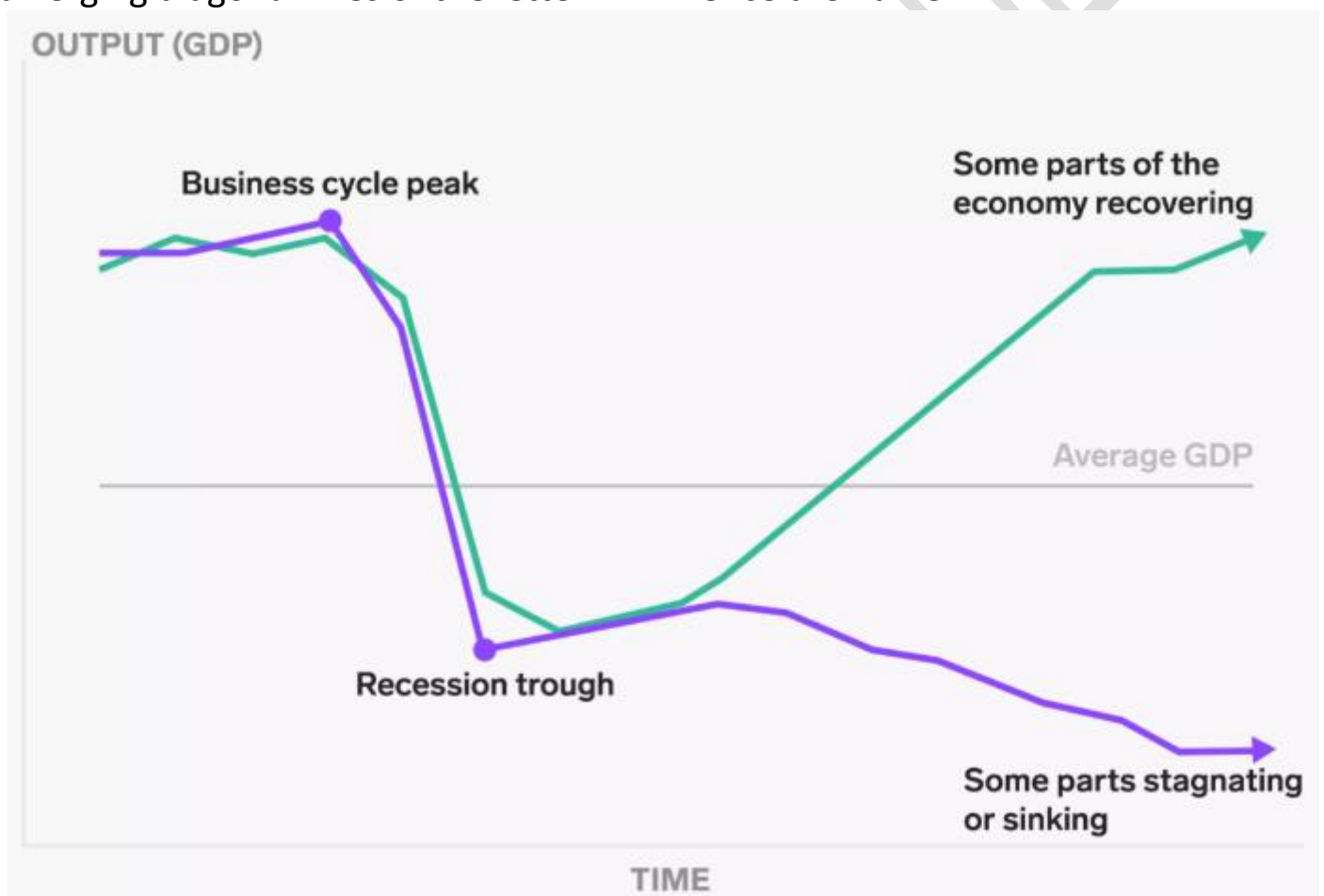


Example – US economy in 1980's

The United States experienced a W-shaped recovery in the early 1980s. From January to July 1980 the U.S. economy experienced the initial recession, and then entered recovery for almost a full year before dropping into a second recession in 1981 to 1982.

K-shaped recovery:

A K-shaped recovery is a post-recession scenario in which one segment of the economy begins to climb back upward while another segment continues to suffer. If illustrated, the economic growth would roughly resemble the two diverging diagonal lines of the letter "K" - hence the name.



While V-shaped, U-shaped, and W-shaped recoveries have been around for decades, the concept of a K-shaped recovery first emerged in 2020 during the COVID-19 pandemic.

In a K-shaped economy,

Households at the top of the pyramid are likely to have seen their incomes largely protected, and savings rates forced up during the lockdown, increasing 'fuel in the tank' to drive future consumption.

Meanwhile, households at the bottom are likely to have witnessed permanent hits to jobs and incomes,

What's particularly concerning about a K-shaped recovery is the way it splinters the economy, continually widening the gap between those who are doing well and those who are not.

In the end, a K-shaped recovery makes any existing problems of economic inequality much worse.

PM GATI SHAKTI

In News:

Nearly 400 comprehensive GIS based maps already prepared under PM GatiShakti National Master Plan- Ministry of Commerce and Industry.

Analysis of Background:

- PM Gati Shakti plan envisages a centralised portal to unite the infrastructural initiatives planned and initiated by as many as 16 central ministries and departments.
- GatiShakti targets to cut logistic costs, increase cargo handling capacity and reduce the turnaround time.
- It is a campaign to lend more speed (Gati) and power (Shakti) to projects by connecting all concerned departments on one platform.
- This way, the infrastructure schemes of various ministries and state governments will be designed and executed with a common vision.
- It includes the ministries of road to railways, aviation to agriculture. This will, in turn, reduce logistic cost and turnaround time, and also help India become an attractive investment destination.

Pillars of Gati Shakti

- **Comprehensiveness:** It will include all the existing and planned initiatives of various Ministries and Departments with one centralized portal. Each and

every Department will now have visibility of each other's activities providing critical data while planning & execution of projects in a comprehensive manner.

- **Prioritization:** Through this, different Departments will be able to prioritize their projects through cross—sectoral interactions.
- **Optimization:** The National Master Plan will assist different ministries in planning for projects after identification of critical gaps. For the transportation of the goods from one place to another, the plan will help in selecting the most optimum route in terms of time and cost.
- **Synchronization:** Individual Ministries and Departments often work in silos. There is lack of coordination in planning and implementation of the project resulting in delays. PM GatiShakti will help in synchronizing the activities of each department, as well as of different layers of governance, in a holistic manner by ensuring coordination of work between them.
- **Analytical:** The plan will provide the entire data at one place with GIS based spatial planning and analytical tools having 200+ layers, enabling better visibility to the executing agency.
- **Dynamic:** All Ministries and Departments will now be able to visualize, review and monitor the progress of cross-sectoral projects, through the GIS platform, as the satellite imagery will give on-ground progress periodically and progress of the projects will be updated on a regular basis on the portal. It will help in identifying the vital interventions for enhancing and updating the master plan.

START-UPS IN INDIA

In News:

- Prime Minister Narendra Modi launched the Madhya Pradesh Startup Policy during the Madhya Pradesh Startup Conclave. He also launched the Madhya Pradesh Startup portal.

Analysis of Background:

Definition of Start-Up in India

An entity shall be considered as a startup if it satisfies all the following conditions:

1. If it is incorporated/registered as any of the followings:
2. Private Limited Company (as defined in Companies Act, 2013).
3. Partnership Firm (registered under Partnership Act, 1932).
4. Limited Liability Partnership (registered under Limited Liability Partnership Act, 2008).
5. One Person Company (as defined in Companies Act, 2013).

Provided that such entity is not formed by splitting up or reconstruction of a business already in existence.

- It has not completed ten years since incorporation/registration as above.
- Its turnover for any of the financial years has not exceeded INR 100 Crore.
- It satisfies any of the following conditions:
 - It is working towards: Innovation/ Development/Improvement of new products/processes/services .
 - It is a scalable business model with a high potential of: Employment generation or Wealth creation.

A DPIIT recognized startup is eligible for exemption from the provisions of section 56(2)(viib) of the Income Tax Act.

Startups are exempted from income tax for 3 years provided they get a certification from Inter-Ministerial Board (IMB).

Controlling Body to Startups in India

Department For Promotion of Industry And Internal Trade (DPIIT) working under the Ministry of Commerce and Industry is the controlling body to startups in India.

DPIIT RECOGNITION TO STARTUPS :- Under the Startup India initiative, eligible companies can get recognised as Startups by DPIIT, in order to access a host of tax benefits, easier compliance, IPR fast-tracking & more.

Status of Start Ups in India: Economic Survey 2022 Report

- India has over 61,400 startups recognised by the Department for Promotion of Industry and Internal Trade (DPIIT), with at least 14,000 recognized during fiscal 2022, according to the Economic Survey 2021-22.
- Startups in India have grown remarkably over the last six years. The number of new recognized startups has increased to over 14,000 in 2021-22 from only 733 in 2016-17.
- India has become the third-largest startup ecosystem in the world after the US and China.
- A record 44 Indian startups achieved unicorn status in 2021, taking the overall tally of startup unicorns in India to 83, with most in the services sector.
- In recent years, Delhi has replaced Bengaluru as the startup capital of India.
- Maharashtra has the highest number of recognised startups.

Government Schemes to Support Startups in India

- SAMRIDH(Startup Accelerators of MeitY for pRодукt Innovation, Development, and growth) Scheme to provide funding support to startups along with helping them bring skill sets together which will help them grow successful.
- Startup India Seed Fund - The 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.
- Startup India Initiative gives tax benefits to startups under this scheme.
- A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship (ASPIRE) initiative to offer proper knowledge to the entrepreneurs to start with their business and emerge as employers.
- Pradhan Mantri Mudra Yojana (PMMY) provide startup loans of up to INR 10 lakhs to small enterprises, business, which are non-corporate, and non-farm small/micro-enterprises.
- eBiz - the first electronic government-to-business(G2B) portal, to transform and develop a conducive business environment in the country.

- “Support for International Patent Protection in E&IT (SIP-EIT)”. This scheme provides financial support to MSMEs and Technology Startups for international patent filing.
- Multiplier Grants Scheme (MGS): This scheme aims to encourage collaborative Research & Development (R&D) between industry and academics/institutions for the development of products and packages. Under the scheme, if the industry supports the R&D of products that can be commercialized at the institutional level, the government shall provide financial support which will be up to twice the amount provided by industry.
- Venture Capital Assistance (VCA) scheme by Small Farmer’s Agri-Business Consortium (SFAC) for the welfare of farmer-entrepreneurs. It intends to provide assistance in the form of term loans to farmers so that the latter can meet the capital requirements for their project's implementation.
- NewGen IEDC initiative launched by the National Science and Technology Entrepreneurship Development Board under the Department of Science and Technology. The initiative aims to inculcate the spirit of innovation and entrepreneurship among the Indian youth through guidance, mentorship, and support.
- Start-ups Intellectual Property Protection (SIPP) scheme was launched to encourage innovation and creativity in startups. Under this scheme, 80% rebate for patent filing fees and 50% for trademark filing is provided to startups.

JUTE INDUSTRY

In News:

Recently, the Calcutta High Court directed the Jute Commissioner to review and refix the rate of raw jute if the notified rate cannot be adhered to.

Analysis of Background:

- The jute industry of West Bengal is facing a major crisis and impacting the livelihoods of thousands of workers and farmers.
- The sector directly provides employment to about 70 lakh workers in the country and sustains over 40 lakh farm families.

- With 70 of the 93 (2016 data) mills in India, West Bengal is the hub of India's jute industry, valued at around Rs 10,000 crore. Several mills are on the verge of closing.

Issue:

- The issue is the procurement of raw jute at a higher cost but the final output is being sold at higher rates.
- The government procures raw jute from farmers at a fixed Minimum Support Price (MSP) which is Rs 4,750 per quintal for the financial year 2022-23.
- This reaches the mill at Rs. 7,200 per quintal, that is, Rs. 700 more than the Rs. 6,500 per quintal cap for the final product.
- The jute mills do not procure raw material directly from the farmers because the mills are far from farmers and the process of procurement takes time. No single farmer produces enough to meet the entire demand of a mill. Thus, the middlemen or traders procure raw jute from multiple farmers and then trade it to the mills.

Supply Crunch

- The occurrence of Cyclone Amphan in May 2020 and the subsequent rains in major jute producing States aggravated the crisis. These events led to lower acreage, which in turn led to lower production and yield compared to previous years.
- Additionally, as the Commission for Agricultural Costs and Prices (CACP) stated in its report, this led to production of a lower quality of jute fibre in 2020-21 as water-logging in large fields resulted in farmers harvesting the crop prematurely.
- Acreage issues were accompanied by hoarding at all levels – right from the farmers to the traders.

Impact

- As the jute sector provides direct employment to 3.70 lakh workers in the country and supports the livelihood of around 40 lakh farm families, closure of the mills is a direct blow to workers and indirectly, to the farmers whose

production is used in the mills. West Bengal, Bihar and Assam account for almost 99% of India's total production.

India's Jute Industry

- India is the world's biggest producer of jute, followed by Bangladesh. Jute is primarily grown in West Bengal, Odisha, Assam, Meghalaya, Tripura and Andhra Pradesh.
- The jute industry in India is 150 years old. There are about 79 jute mills in the country, of which about 60 are in West Bengal along both the banks of river Hooghly.
- Jute production is a labour intensive industry. It employs about two lakh workers in the West Bengal alone and 4 lakh workers across the country.

Jute as a crop and its benefits

- Jute is the only crop where earnings begin to trickle in way before the final harvest. The seeds are planted between April and May and harvested between July and August.
- The leaves can be sold in vegetable markets for nearly two months of the four-month jute crop cycle. The tall, hardy grass shoots up to 2.5 metres and each part of it has several uses.
- The outer layer of the stem produces the fibre that goes into making jute products. But the leaves can be cooked, the inner woody stems can be used to manufacture paper and the roots, which are left in the ground after harvest, improve the yield of subsequent crops.
- Compared to rice, jute requires very little water and fertiliser. It is largely pest-resistant, and its rapid growth spurt ensures that weeds don't stand a chance.
- To top it all, the monetary returns on jute are twice that of paddy. An acre of land produces approximately nine quintals of fibre.
- Jute brings home higher returns compared to most cash and food crops, and it is also a massive winner on the sustainability front.
- Jute is the second most abundant natural fibre in the world. It has high tensile strength, acoustic and thermal insulation, breathability, low extensibility, ease of blending with both synthetic and natural fibres, and antistatic properties.

- Jute can be used: for insulation (replacing glass wool), geotextiles, activated carbon powder, wall coverings, flooring, garments, rugs, ropes, gunny bags, handicrafts, curtains, carpet backings, paper, sandals, carry bags, and furniture.
- A 'Golden Fibre Revolution' has long been called for by various committees, but the jute industry is in dire need of basic reforms.

Problems of Jute Industry in India

The major problems of Indian Jute Industries are mentioned below:

- High cost of production: Equipments for production are all worn out, outmoded in design. Many mills are uneconomic. Products are made costlier.
- Storage of raw Jute: Jute industry suffers from inadequate supply of raw jute.
- Shortage of Power Supply: Load-shedding creates problem of under-utilization of capacity.
- Growth of Jute mills in Bangladesh and loss of foreign market: Newly started jute industry in Bangladesh has captured some of the market of Indian jute goods.
- Emergence of substitute goods against gunny bags and loss of demand for jute goods both at home and abroad: Indian jute goods have been losing ground in the world market primarily due to keen competition from synthetic substitutes and also supplies from Bangladesh and China.
- Effects of Partition: Due to Partition in 1947, the erstwhile best quality jute-producing areas went to the then East Pakistan (now Bangladesh) while the jute mills were mainly concentrated in the Indian Territory. Bangladesh received 82% of the good quality jute growing tract India retained 95% of the mills. The resultant acute shortage of raw jute forced some of the mills to close down.
- Stiff Competition: Bangladesh, Sri Lanka, Thailand and China are recently posing grave threat to India in international export market.
- Low Yield Per Acre: India produces very low quantity of jute per unit of land. In Bangladesh the average yield per hectare is 1.62 tonnes. It is only 1.3

tonnes per hectare in India. The corresponding figure of jute production in China is 1.78 tonnes per hectare. In Taiwan, it is 2 tonnes per hectare.

- **Outmoded Mills and Machinery:** Most of these jute mills were established some 100 or 150 years back. Naturally most of these mills are having backdated machinery. Output of these machines is very low compared to the modern sophisticated machines. Because of use of these for more than a century, productive capacity has gradually declined.
- **Low Demand:** Not many people are aware of plastic alternatives like jute. Besides, the misconception that cotton bags are more durable, presentable and nature friendly has resulted in very few people using jute products.
- **Pandemic:** The coronavirus pandemic has also thwarted hopes of restoring the lost glory of the industry — several mills have shut down and lockdowns have caused labour and raw material shortages.

ATAL INNOVATION MISSION

In News:

The Union Minister of State for Health and Family Welfare has launched the Atal Innovation Mission- PRIME Playbook & Start-up showcase.

Analysis of Background:

- The Minister has stated that the AIM PRIME (Atal Innovation Mission - Program for Researchers in Innovation, Market Readiness and Entrepreneurship) program will serve an important purpose of creating strong indigenous manufacturing capabilities in all critical sectors.

Atal Innovation Mission (AIM)

- The Atal Innovation Mission was initiated by the NITI Aayog in 2016 to promote innovation and entrepreneurship across the country.
- The main objective of the mission is to create and promote an ecosystem of innovation and entrepreneurship at schools, universities, Research institutions, MSMEs and Industry levels.
- Under the Mission, Atal Tinkering Labs are established to promote a creative, innovative mindset in schools.

- At the school level, AIM is setting up state of the art Atal Tinkering Labs (ATL) across all districts across the country.
- These ATLs are dedicated innovation workspaces on the latest technologies like 3D Printers, Robotics, the Internet of Things (IoT), etc.
- Atal Innovation Tinkering challenges are regularly held in the school as well as by AIM every month to ensure students' active involvement in creating innovative solutions to solve problems in their community and the country.
- Atal Incubators to Promote entrepreneurship in universities and industry.
- Atal Community Innovation Centres to promote the benefits of technology to the underserved regions of India including Tier 2, Tier 3 cities, Aspirational districts, tribal, hilly and coastal areas.
- Mentor of Change: To encourage a vibrant ecosystem of innovation, AIM is promoting active collaboration between Government, Academia, Industry, Individuals and Societal focused NGOs.

NITI Aayog

- The creation of the Planning Commission was Inspired by the USSR/Soviet Model, the Prime Minister established a Planning Commission in 1950 to design the five-year Plans for India.
- In 2015, it was replaced by a new organisation named National Institution for Transforming India (NITI).
- Promote Cooperative Federalism
 - The Governing Council of NITI Aayog has Lieutenant Governors of Union Territories and State Chief Ministers.
 - NITI Aayog Constituted a Committee of State Chief Ministers to examine important issues.
- Promote Competitive Federalism
 - NITI Aayog has Prepared online dashboards to rank the States on various indicators of development Such as;
 - Sustainable Development Goals (SDG) India Index.
 - Health Index.
 - School Education Quality Index.
 - Digital Transformation Index.

- Launched Aspirational District Programs for monitoring the Progress of backward districts.
- NITI Aayog has not been given the mandate or Powers to impose Policies on States.
 - NITI Aayog is a think tank or an advisory body.
- The Powers for allocation of funds have not been given to the NITI Aayog. The Powers are with the Finance Ministry.
- As a 'think-tank', Niti Aayog has helped the government In framing various Policies on;
 - Clean energy
 - Methanol based economy
 - Infrastructure, human development etc.
 - The model acts on agricultural land leasing, livestock Selling etc.
- NITI Aayog regularly organises Seminars, Workshops, and Conferences.
- NITI initiated Atal Innovation Mission (AIM) to help Startups. NITI is developing the National Program on Artificial Intelligence.
- NITI's approach is modernised, forward-looking, and less bureaucratic; NITI Aayog is playing an important role as a think tank for Economic growth, Human development and Good governance in India.

DEPRECIATION OF RUPEE

In News:

Recently, the rupee fell to an all-time low of 77.44 against the U.S. dollar due to a

1. Sell-off in equities amid concerns over weakening global growth prospects,
2. Outflow of the dollar and
3. On fears of further monetary tightening by central banks to counter rising inflation.

Analysis of Background:

Why does Rupee Depreciates?

- The value of Indian currency or any other currency depends on its demand.
- If demand for any currency increases, its value also goes up (it is termed appreciation).

- And if the demand for a currency declines, its value also goes down (depreciation).
- The demand for Indian currency goes up when more and more foreign investors make investments in India.
- That is because when foreign investors or companies invest in India or buy any products from India, they first convert their currency into rupees as they can invest only in rupees in Indian markets.
- As a result, demand for the Indian currency increases, and its value strengthens against the US dollar and other currencies.
- On the other hand, when Indian individuals and companies import something (like crude oil, gold, etc.), they have to make the payment in dollars (the de facto global currency).
- So Indians sell rupees to buy dollars because the US dollar is the currency to make payments for international trades. Consequently, demand for the dollar goes up, and the rupee weakens against the US currency.
- Since India has been a net importer (we import more than we export), the rupee has gradually depreciated over time.
- Given that India has been a net importer, the Indian currency's gradual decline is never a huge concern. However, if the pace of the rupee's fall is sudden, it is an alarming situation.

Reasons which cause the rupee to fall in comparison to dollar are:

- **Demand Supply Rule:** The value of rupee follows the simple demand and supply rule of economics. If the demand for the dollar in India is more than its supply, dollar appreciates and rupee depreciates. Similarly, when the supply of dollars in India increases its demand, the value of dollar decreases in terms of rupees. Demand for dollars may be created by importers requiring more dollars to pay for their imports or by FII's withdrawing their investments and taking the dollars outside India, thus creating a shortage of dollar supply, which in turn can also increase the demand for dollar. On the other hand, supply can be created by exporters bringing in more dollars from their revenues or FIIs bringing more dollars in India to spur their investments.
- **Dollar gaining strength against the other currencies:** The central banks of

Eurozone and Japan are printing excessive money due to which their currency is devalued. On the other hand, US Fed has shown signs to end their stimulus. Hence, making the US dollar stronger against the other currencies including the Indian rupee, at least in the short term. One doesn't really know when Helicopter Ben will shut the door and stop the printing of money, though one doubts whether the door will be shut anytime soon.

- **Oil prices:** Oil price is one of the most important factors that puts stress on the Indian Rupee. India is in the unhappy situation where it has to import a bulk of its oil requirements to satisfy local demand, which is rising year-on-year. In International markets, prices of oil are quoted in dollars. Therefore, as the domestic demand for oil increases or the price of oil increases in the international market, the demand for dollars also increases to pay our suppliers from whom we import oil. This, increase in demand for dollar weakens the rupee further.
- **Volatile domestic equity market:** Our equity market has been volatile for some time now. So, the FII's are in a dilemma whether to invest in India or not. Even though they have brought in record inflows to the country in this year chances are they may be thinking of taking their money out of the equity market which might again results in less inflow of dollars in India. Therefore, decrease in supply and increase in demand of dollars results in the weakening of the rupee against the dollar.

Benefits of Rupee Depreciation

- **Advantage to Exporters:** Weakening of rupee gives up a huge advantage to the exporters. Let's take up an example to understand this point. Suppose, an exporter exported goods to US and his receivable payment is 100 USD. Let's take the value of 1 USD = Rs. 55 at the time of trade. So, his net receivable will be Rs. 5500. Suddenly, at the time of payment if the rupee declines sharply in terms of dollar and let's takes 1USD at that time becomes Rs. 57. So, at the time of payment the exporter will get Rupees 5700 of the same trade due to the currency fluctuation. Therefore, his net profit due to depreciation of rupee becomes Rs. 200. This is how the exporters are benefited when rupee declines in terms of dollar.

- **Boom to tourism industry:** Travel and tourism is a sector which will benefit from the depreciation of the rupee. Let's take up an example again to understand how this industry will benefit. Suppose, if a trip to India costs Rs. 1,00,000 to a foreigner and the dollar is quoting 1USD = Rs.50 at that time. So, the trip would cost the foreigner 2000 USD. If the rupee declines in front of dollar and suppose it quotes at 1USD = Rs. 60. Then the same trip would cost the foreigner approx. 1666 USD. This will entice foreigners to visit India and help increase revenues through the travel and tourism industry.

Disadvantages of Rupee Depreciation

- **Imports become extremely expensive:** A depreciating rupee would mean that the importers would have to pay more for their imports as every dollar will constitute more rupees. So, this means that price of the goods or commodity which is being imported to India increases substantially.
- **Reduction in Purchasing Power Parity:** One of the outcomes of a depreciating rupee will be the rise in inflation in the economy. When the inflation rises, prices of goods and commodities shoots up. Therefore, the purchasing power of the rupee falls down.

ASPIRATIONAL DISTRICT PROGRAMME

In News:

The Union Government has reviewed the progress of work under the Aspirational District Programme (ADP).

Analysis of Background:

- The Aspirational District Programme is scientifically designed with evaluation based on certain essential criteria.
- The Programme was launched by the Prime Minister in January 2018.
- It aims to quickly and effectively transform under-developed districts across the country.
- The general strategy of the programme includes Convergence, Collaboration and Competition among districts through monthly delta ranking.

Aspirational District Programme (ADP)

- The Union Government launched the 'Transformation of Aspirational Districts' programme in 2018.
- The overall objective of the programme;
 - Convergence of Central & State Schemes.
 - Collaboration of Central, State level 'Prabhari' Officers and District Collectors.
 - Competition among districts with a spirit of mass Movement.
- 115 districts were transparently identified from 28 states by a committee of Senior Officers to the Government of India, in consultation with State Officials using a composite index.
 - The Composite index included data from the Socio-Economic Caste Census, Key health and education sector performance and the basic infrastructure of the State.
- The NITI Aayog coordinates and manages the programme with support from Central Ministries and the State Governments.
 - NITI Aayog is supervising the initiative in 30 districts.
 - Various central ministries oversee 50 districts.
 - The Ministry of Home Affairs focuses on 35 Left Wing Extremism (LWE) affected districts.
- The Officers at the level of Joint Secretary or Additional Secretary are nominated to become the 'Central Prabhari Officers' of each district.
- States have appointed Prabhari officers.
- An Empowered Committee under the NITI Aayog will help in the convergence of various government schemes and efforts.
- NITI Aayog release the Delta ranking for Aspirational Districts to assess the performance across 5 developmental areas;
 - Health and Nutrition
 - Education
 - Agriculture and Water Resources
 - Financial Inclusion and Skill Development
 - Basic Infrastructure

NITI Aayog

- The Planning commission was inspired by the USSR/Soviet Model, Prime Minister established a Planning Commission in 1950 to design the five-year Plans for India.
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 - Health Index.
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 - Digital Transformation Index.
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- The Powers for allocation of funds have not been given to the NITI Aayog. The Powers are with the Finance Ministry.
- As a 'think-tank', Niti Aayog has helped the government In framing various Policies on;
 - Clean energy
 - Methanol based economy
 - Infrastructure, human development etc.
 - The model acts on agricultural land leasing, livestock Selling etc.

PERIODIC LABOUR FORCE SURVEY

In News:

- National Statistical Office (NSO) released the Quarterly Bulletin for the quarter October – December 2021 of Periodic Labour Force Survey (PLFS).

Analysis of Background:

Employment - Unemployment Surveys

- One of the major statistical hurdles in our country is the estimation of reliable employment and unemployment data. The NSSO (National Sample Survey Office) was historically conducting Employment and Unemployment Surveys as part of its National Sample Surveys.
- They were quinquennial (once in every five years) Employment and Unemployment surveys.
- These surveys were the prime source for statistics about employment and unemployment situation in the country.

PLFS

- But from 1st April 2017, the NSSO has adopted a new employment and unemployment survey called Periodic Labour Force Survey (PLFS).
- First report of the PLFS was published in June 2019 for the period of 2017-18.
- The PLFS has now become the major employment and unemployment data of the NSSO; replacing the previous five-year surveys.
- Since the PLFS aims to provide more employment data for more frequent intervals (annual and quarterly), the PLFS is superior to the earlier five-year employment estimates.
- Methodologically, the PLFS is different from the earlier quinquennial surveys in terms of survey methodology, data collection mechanism and sampling design.

Measurement approaches under PLFS

- Unemployment rate for PLFS is measured under two approaches – Usual Status and Current approach and Weekly Status approach. The reference

period for usual status (ps+ss) approach is 1 year and that for current weekly status approach is 1 week.

Current Weekly Status (CWS)

- The estimates of unemployed in current weekly status give an average picture of unemployment in a short period of 7 days during the survey period.
- Current weekly status measures the number of persons worked for at least 1 hour on any day during the 7 days preceding the date of survey.
- Thus, the workforce measured in current weekly status (CWS) gives the average picture of the workforce in a short period of one week during the survey period.

Usual Status

- The Labour Force under usual status approach is estimated by considering a time period of one year. It is estimated by clubbing two categories – usual principal status (ps) category and subsidiary status (ss) category.
- The estimate of the labour force in the usual status (ps+ss) includes
 - (a) the persons who either worked or were available for work for a relatively long part of the 365 days preceding the date of survey and also
 - (b) persons among the remaining population who had worked at least for 30 days during the reference period of 365 days preceding the date of survey.

Worker Population Ratio (WPR)

- Worker Population Ratio (WPR) is the percentage of persons employed among the persons in the population.
- Unemployment rate (UR): Unemployment rate (UR) is defined as the percentage of unemployed persons in the labour force.
- Educated persons for employment survey: Educated persons are defined as those who have attained the educational level of secondary and above.
- Educated unemployment under PLFS: Unemployment among people who have secondary or higher education and an age of 15 years and higher.

- Labour force participation rate (LFPR): LFPR is defined as the percentage of persons in the labour force in the population.

DISINVESTMENT

In News:

Ahead of the mega LIC IPO, the Congress questioned the pricing of shares, alleging they are undervalued and being offered at throwaway prices at the cost of the trust of 30 crore policyholders.

Analysis of Background:

Disinvestment

Disinvestment means sale or liquidation of assets by the government, usually Central and state public sector enterprises, projects, or other fixed assets. The government undertakes disinvestment to reduce the fiscal burden on the exchequer, or to raise money for meeting specific needs, such as to bridge the revenue shortfall from other regular sources. In some cases, disinvestment may be done to privatise assets. However, not all disinvestment is privatisation. Some of the benefits of disinvestment are that it can be helpful in the long-term growth of the country; it allows the government and even the company to reduce debt. Disinvestment allows a larger share of PSU ownership in the open market, which in turn allows for the development of a strong capital market in India.

Main objectives of Disinvestment in India:

- Reducing the fiscal burden on the exchequer
- Improving public finances
- Encouraging private ownership
- Funding growth and development programmes
- Maintaining and promoting competition in the market.
- Reducing the financial burden on the government
- Improving public finances
- Encouraging an open share of ownership
- Introduction, competition, and market discipline
- Depoliticising essential services

- Upgrading the technology used by public enterprises to become competitive
- Rationalising and retraining the workforce
- Building competence and strength in R&D
- Initiating the diversification and expansion programmes

Importance of Disinvestment

The importance of disinvestment lies in utilisation of funds for:

- Financing the increasing fiscal deficit
- Financing large-scale infrastructure development
- For investing in the economy to encourage spending
- For retiring Government debt- Almost 40-45% of the Centre's revenue receipts go towards repaying public
- debt/interest
- For social programs like health and education

CPI

In News:

The Labour Bureau, an attached office of the M/o Labour & Employment releases Consumer Price Index for Industrial workers (CPI- IW) for March, 2022.

Analysis of Background:

What is Inflation?

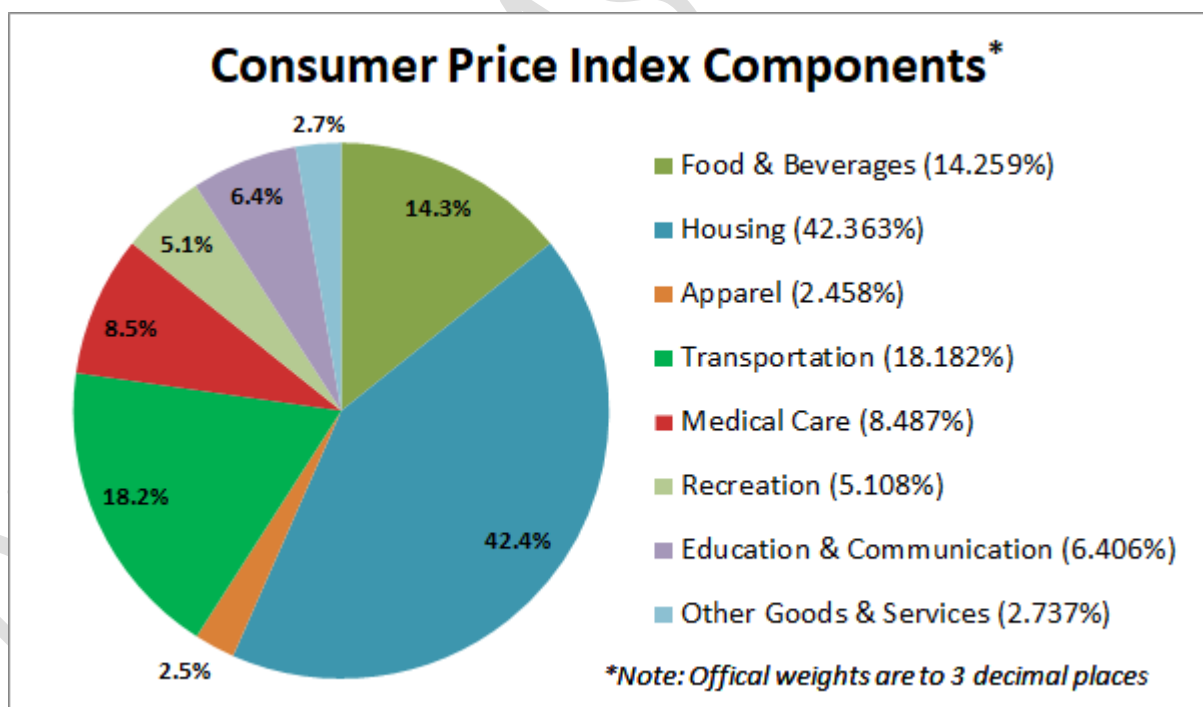
- Inflation refers to a sustained increase in the general price level of goods and services in an economy over a period of time.
- It is the rise in the prices of most goods and services of daily or common use, such as food, clothing, housing, recreation, transport, consumer staples, etc.
- Inflation measures the average price change in a basket of commodities and services over time.
- The opposite and rare fall in the price index of this basket of items is called 'deflation'.
- Inflation is indicative of the decrease in the purchasing power of a unit of a country's currency. This is measured in percentage.

Measures of Inflation in India

- In India, the Ministry of Statistics and Programme Implementation measures inflation.
- There are two main set of inflation indices for measuring price level changes in India – the Wholesale Price Index (WPI) and the Consumer Price Index (CPI). GDP deflator is also used to measure inflation.

Consumer Price Index

- Consumer Price Index or CPI is an index measuring retail inflation in the economy by collecting the change in prices of most common goods and services used by consumers.
- CPI is calculated for a fixed list of items including food, housing, apparel, transportation, electronics, medical care, education, etc. The price data is collected periodically, and thus, the CPI is used to calculate the inflation levels in an economy.



Source: BLS; The most recent annual reweighting was in December 2021

Who maintains Consumer Price Index in India?

In India, there are four consumer price index numbers, which are calculated, and these are as follows:

1. CPI for Industrial Workers (IW)
2. CPI for Agricultural Labourers (AL)
3. CPI for Rural Labourers (RL) and
4. CPI for Urban Non-Manual Employees (UNME).

While the Ministry of Statistics and Program Implementation collects CPI (UNME) data and compiles it, the remaining three are collected by the Labour Bureau in the Ministry of Labour.

TOPIC: SCIENCE AND TECHNOLOGY

SUPERCOMPUTERS

In News

- PARAM PORUL, a state-of the art Supercomputer at NIT Tiruchirappalli was dedicated to the nation under National Supercomputing Mission (NSM).
- It is a joint initiative of Ministry of Electronics and Information Technology (MeitY) and Department of Science and Technology (DST).

Analysis of Background:

- The system is equipped with a mix of CPU nodes, GPU nodes, High Memory nodes, High throughput storage and high performance Infiniband interconnect to cater the computing needs of various scientific and engineering applications.
- PARAM PORUL system is based on Direct Contact Liquid Cooling technology to obtain a high power usage effectiveness and thereby reducing the operational cost.
- Multiple applications from various scientific domains such as Weather and Climate, Bioinformatics, Computational Chemistry, Molecular Dynamics, Material Sciences, Computational Fluid Dynamics etc. has been installed on the system for the benefit of researchers. This high end computing system will be a great value addition for the research community.

- NIT, Tiruchirappalli has been carrying out research in the areas of societal interest such as Health, Agriculture, Weather, Financial Services. The facility installed under NSM will strengthen this research.
- The new high-performance computational facility would aid researchers to solve large-scale problems of different fields of Science and Engineering.

About Supercomputer

- A supercomputer is a computer with a high level of performance as compared to a general-purpose computer because its architectural and operational model depend on the parallel and grid processing.
- Primary motive to design of supercomputer was to be used in large scale organizations where need more computing power.
- Supercomputer has a power to execute many processes simultaneously on thousand of processors, because these types of processors can execute billions and trillion of instructions per seconds, so its computing performance matrix is FLOPS (that is floating-point operations per second).
- The performance of a supercomputer is commonly measured in floating-point operations per second (FLOPS) instead of million instructions per second (MIPS). Supercomputers were started in 1960s.

Petaflop:

- A petaflop is the ability of a computer to do one quadrillion floating point operations per second (FLOPS).
- Floating-point numbers have decimal points in them. The number 2.0 is a floating-point number because it has a decimal in it. The number 2 (without a decimal point) is a binary integer.
- Specific to floating-point numbers, a floating-point operation is any mathematical operation (such as +, -, *, /) or assignment that involves floating-point numbers (as opposed to binary integer operations).

Petascale

- Petascale computing refers to computing systems capable of calculating at least 10^{15} floating point operations per second (1 petaFLOPS).

- Petascale computing allowed faster processing of traditional supercomputer applications. The first system to reach this milestone was the IBM Roadrunner in 2008.

Categories of Supercomputers

The supercomputer has to divide into three categories such as Vector processing machines, tightly connected cluster computer and in finally commodity computer.

1. Vector processing machines: This machine was invented in 1980 to 1990s. In which arrange the all processor in the array form, and its CPU is capable to execute all huge mathematically operations in a few time.
2. Tightly connected cluster computer: In these types of system, connect all groups of computers and assigned the task to all group equally so the reason of this clustering enhanced the speed of computer. There are four types of cluster like as Director-based clusters, Two-node clusters, Multi-node clusters, and massively parallel clusters.
3. Commodity Cluster: In this system, high-bandwidth low-latency local area networks were interconnected by the Commodity computer.

Applications

- Supercomputers have a wide variety of applications such as weather forecasting, aerospace engineering, automobile crash and safety modeling, quantum physics, physical simulations, molecular modeling, oil and gas exploration, defense applications and many more.
- Other applications include virtual reality, computational chemistry, finance, transportation, etc.

5G SPECTRUM

In News:

5G represents the allocation of new spectrum to increase capacity. Since most of the spectrum at lower frequencies is already being utilised — much of this new spectrum is being allocated at higher frequencies.

Analysis of Background:

Spectrum:

- Spectrum refers to the invisible radio frequencies that wireless signals travel over. Those signals are what enable us to make calls from our mobile devices, tag our friends on Instagram, call an Uber, pull up directions to a destination, and do everything on our mobile devices.
- The frequencies we use for wireless are only a portion of what is called the electromagnetic spectrum.
- Note: The electromagnetic spectrum includes everything from infrared rays to radio waves, X-Rays, visible light, microwaves and more.
- Portions of electromagnetic spectrum are grouped in “bands” depending on their wavelengths—the distance over which the wave’s shape repeats. The full electromagnetic spectrum ranges from three Hz (extremely low frequency) to 300 EHz (gamma rays).
- Cellular technology operates upon the radio spectrum (not visible), which includes frequencies of 3 kilohertz (kHz) to 300 gigahertz (GHz).
- Other parts of spectrum carry broadcast radio and television or serve other everyday functions.

How does Spectrum work?

- Because a range of spectrum frequencies can be used for cellular communications, different bands have slightly different characteristics.
- For the purposes of wireless communication, we can think of spectrum in three categories: low-, mid-, and high-band spectrum.
 1. Low-band spectrum (under 3 GHz) travels longer distances with minimal signal interruption. Today’s wireless networks are built primarily on low-band spectrum, and the wireless industry has used this spectrum to build high-speed wireless networks that cover 99.7 percent of Americans.

2. High-band spectrum (above 24 GHz) travels much shorter distances—think meters, not miles—compared to low-band spectrum, but offers high capacity and ultra-fast speeds.
3. Mid-band spectrum (between 3 and 24 GHz) blends the characteristics of both low- and high-band spectrum—providing a mix of coverage and capacity.

These spectrum frequencies are transmitted between cell sites and our mobile devices.

5G Airwaves

- The 5G spectrum includes all type of spectrum including low band and mid band spectrum of the 1G through 4G LTE frequencies as well as the new high-band spectrum, also known as millimeter wavelength (mmWave).
- The 5G spectrum is a range of radio frequencies in the sub-6 GHz range and the millimeter-wave (mmWave) frequency range that is 24.25 GHz and above.
- In a nutshell, 5G will bring wider bandwidths by expanding the usage of spectrum resources, from sub-3 GHz used in 4G to 100 GHz and beyond. 5G can operate in both lower bands (e.g., sub-6 GHz) as well as mmWave (e.g., 24 GHz and up), which will bring extreme capacity, multi-Gbps throughput, and low latency.

5G and Technology:

- Radio electronics refers to a broad range of technologies that can transmit, receive and process wireless signals.
- While these technologies can utilise electromagnetic spectrum that goes all the way up to 300GHz, the lower frequencies of this spectrum are particularly attractive.
- Lower frequency signals can travel longer distances and penetrate obstacles with lesser attenuation.
- Electronic components (amplifiers, transmitters, receivers) operating at lower frequencies are also easier to design and manufacture. Consequently, much of the bandwidth in the lower frequencies of this spectrum has already been

allocated for several applications (mobile communications currently use the spectrum from 800MHz to 2.5 GHz).

New spectrum for 3GHz

- With the increasing demand for mobile services, the currently allocated spectrum is proving inadequate.
- At the simplest level, 5G represents the allocation of new spectrum to increase capacity. Since most of the spectrum at lower frequencies is already being utilised — much of this new spectrum is being allocated at higher frequencies.
- The first deployments in India will be around 3GHz, but will expand to 25 GHz and beyond.
- As 5G services evolve to occupy higher frequencies, it will significantly increase the bandwidth available for mobile services. However, at these frequencies the design of the transmitting and receiving equipment becomes more complex.
- Signal attenuation also increases. So, the coverage area of each cell tower will decrease which will require the towers to be more closely spaced.
- At higher frequencies it becomes easier to direct a signal in specific direction. So, signals transmitted from a cell tower can be more precisely directed at a specific user (rather than spreading out in various directions which is just a waste of energy).
- This enhanced directivity results in less interference between signals meant for different users which directly translates to increased capacity. Thus, while operating at higher frequencies has some fundamental challenges, it offers some unique opportunities as well.

Evolving communication needs

- 5G places special emphasis on low latency, energy efficiency and standardisation.
- Existing wireless communication infrastructure is primarily designed around the needs of mobile phones. However, several emerging applications in factory automation, gaming and remote healthcare have more stringent latency requirements.

- Self-driving cars is an illustrative example. Low delays between transmission and reception of messages are extremely critical when these cars have to co-operate with each other to avoid accidents.
- As 5G rolls out, over the next several years the volume of data is expected to exponentially increase.
- To ensure that there isn't a corresponding increase in the energy usage, 5G places a lot of importance on energy efficiency.
- This will mean lower energy bills for service providers and longer battery life for mobile devices.
- Greater attention to standardisation is another important aspect of 5G.
- Today most of the components that make up wireless telecom interact with each other using proprietary protocols that are vendor specific.
- To enable the rapid deployment of 5G infrastructure there is an industry-wide effort to standardise interaction between components.
- Greater standardisation would enable service providers to build their infrastructure, 'mixing and matching' components from multiple vendors. Switching vendors would also be easier which would foster competition and lower costs.

Concerns pertaining to Spectrum affordability

- Telecom companies had pointed out that the reserve price of the airwaves is very high.
- Telecom industry body Cellular Operators Association of India (COAI) had also expressed concerns about the financial health of the sector amid intense competition and recent phase of consolidation.
- The COAI had pointed out that 5G is overpriced by at least 30% to 40% compared to international standards and auction in other markets such as South Korea and the U.S.

Recent suggestions made by TRAI

- All available spectrum in the existing bands of 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz, 2500 MHz as well as the newer frequency bands of 600 MHz, 3300-3670 MHz, and 24.25-28.5 GHz also be put up for auction in India.

- TRAI has also suggested that telecom service providers should be allowed to surrender spectrum easily by paying a spectrum surrender fee of Rs 1 lakh per spectrum band per Licenced Service Area (LSA).
- TRAI has suggested easing some of the minimum roll out (MRO) obligations for deployment of 5G by the new entrants in the telecom sector. For example, in the 700 MHz, 800 MHz, 900 MHz, and 1800 MHz bands, Trai has suggested that the time period for MRO should be extended to 2 years from 1 year currently.
- For the auction of the 5G spectrum, the telecom regulatory body suggested that the base price for prime 5G band of 3300-3670 MHz be kept at Rs 317 crore per MHz, which is 35 per cent lower than the base price of Rs 492 crore per MHz announced in 2018.
- Similarly, for the 700 MHz, the price recommended by Trai comes out to Rs 3,297 crore, which is almost 40 per cent lower than prices recommended by the regulatory in 2018.
- The reserve prices, however, will be for a period of 20 years. In case the spectrum is allocated for a period of 30 years, the base price to be considered should be 1.5 times the price recommended for the 20 year period.

Implications

- Lowering of the base price for 5G airwaves in the auction will spur participation by local telecom firms and expedite the rollout of these superfast networks.
- For the long-term growth and sustainability of the telecom sector, infusing liquidity and encouraging investment, the telecom service providers should be allowed easy payment options including part payment with flexibility of moratorium.

Final Thoughts

- 5G technology has significant transformative potential for the Indian economy.
- To unlock that potential, the Indian government must encourage investment in the form of timely and affordable spectrum.

- Widespread high-quality networks maximise access to mobile broadband services for a lower cost to users, including enterprises, which, in turn, drive a significant impact on the digital and the overall economy.

MONKEYPOX VIRUS

In News:

Monkeypox cases jumped to seven infections in total, with three in London and one in North East England.

Analysis of Background:

Monkey Pox Virus

- Monkeypox is a viral zoonotic disease that occurs primarily in tropical rainforest areas of Central and West Africa and is occasionally exported to other regions.
- The first case of monkeypox in humans was recorded in 1970 in the Democratic Republic of Congo during a period of intensified effort to eliminate smallpox.
- Scientists have so far discovered two distinct genetic groups of monkeypox virus—Central African and West African.

Cause:

- It is caused by monkeypox virus, a member of the Orthopoxvirus genus in the family Poxviridae.
- Monkeypox belongs to the same family of viruses as smallpox. But Smallpox had a higher fatality rate than monkeypox.
- Smallpox was declared eradicated worldwide in 1980.

Symptoms

- Monkeypox is characterised by flu-like symptoms and swelling of the lymph nodes, which gradually progresses to a widespread rash all over the face and body.

Transmission

- Monkeypox virus is mostly transmitted to people from wild animals such as rodents and primates, but human-to-human transmission also occurs.
- It spreads from one person to another via respiratory droplets.

Treatment

- There is currently no specific treatment recommended for monkeypox.
- Vaccination against smallpox was about 85% effective in preventing monkeypox.
- Thus, prior childhood smallpox vaccination may result in a milder disease course.

BRAHMOS MISSILE

In News:

- The Extended Range version of BrahMos supersonic cruise missile was successfully test-fired for the first time from a Su-30MKI fighter by Indian Air Force (IAF) to a designated target in the Bay of Bengal region.
- This test gives the IAF a strategic reach and allows it to dominate future battlefields.

Analysis of Background:

About BrahMos:

- BRAHMOS is a joint venture between the Defence Research and Development Organisation of India (DRDO) and the NPOM of Russia.
- Brahmos is named after the rivers Brahmaputra and Moskva.
- It is a two-stage (solid propellant engine in the first stage and liquid ramjet in the second) air to surface missile with a flight range of around 300 km.

Integration of Su-30 MKI and BrahMos

- Hindustan Aeronautics Limited (HAL) and BAPL (BrahMos Aerospace Pvt Ltd) 2014 signed a contract to modify two Su-30 MKI aircraft for integration with the missile.

- It was for the first time in the world that such a heavyweight missile was integrated into a fighter aircraft.
- All-weathered Brahmos gives the Sukhoi a combat radius of almost 1,500 km without mid-air refuelling.
- Brahmos is the heaviest weapon to be deployed on Su-30 MKI fighter aircraft, with a weight of 2.5 tonnes.

BLACK HOLE

In News:

- Scientists from the Event Horizon Telescope (EHT) facility, revealed the first image of the black hole at the centre of the Milky Way.
- The image of Sagittarius A* (SgrA*) gave further support to the idea that the compact object at the centre of our galaxy is indeed a black hole, strengthening Einstein's general theory of relativity.

Analysis of Background:

- In 2019, the Event Horizon Telescope facility, a collaboration of over 300 researchers, made history by releasing the first-ever image of a black hole, M87* — the black hole at the centre of a galaxy Messier 87, which is a supergiant elliptic galaxy.
- The whole exercise was possible because of the enormous power of the Event Horizon Telescope, an ensemble of several telescopes around the world.

What is a Black Hole?

- A black hole is a place in space where gravity pulls so much that even light cannot get out.
- The gravity is so strong because matter has been squeezed into a tiny space.
- This can happen when a star is dying.
- Because no light can get out, people can't see black holes. They are invisible.

- Space telescopes with special tools can help find black holes.
- The special tools can see how stars that are very close to black holes act differently than other stars.

How Do Black Holes Form?

- Scientists think the smallest black holes formed when the universe began.
- Stellar black holes are made when the center of a very big star falls in upon itself, or collapses.
- When this happens, it causes a supernova.
- A supernova is an exploding star that blasts part of the star into space.
- Scientists think supermassive black holes were made at the same time as the galaxy they are in.

If Black Holes Are "Black," How Do Scientists Know They Are There?

- A black hole cannot be seen because strong gravity pulls all of the light into the middle of the black hole.
- But scientists can see how the strong gravity affects the stars and gas around the black hole.
- Scientists can study stars to find out if they are flying around, or orbiting, a black hole.
- When a black hole and a star are close together, high-energy light is made.
- This kind of light can not be seen with human eyes.
- Scientists use satellites and telescopes in space to see the high-energy light.

Could a Black Hole Destroy Earth?

- Black holes do not go around in space eating stars, moons and planets.
- Earth will not fall into a black hole because no black hole is close enough to the solar system for Earth to do that.
- Even if a black hole the same mass as the sun were to take the place of the sun, Earth still would not fall in.
- The black hole would have the same gravity as the sun.
- Earth and the other planets would orbit the black hole as they orbit the sun now.
- The sun will never turn into a black hole.

- The sun is not a big enough star to make a black hole.

INDUSTRY 4.0

In News:

- Union Minister of State for Commerce & Industry, has called upon the Small and Medium Enterprises (SMEs) to adopt technology towards raising productivity and promoting sustainability.
- She urged them to take the 'Industry 4.0' to Tier-2 and Tier-3 cities.

What is Industry 4.0?

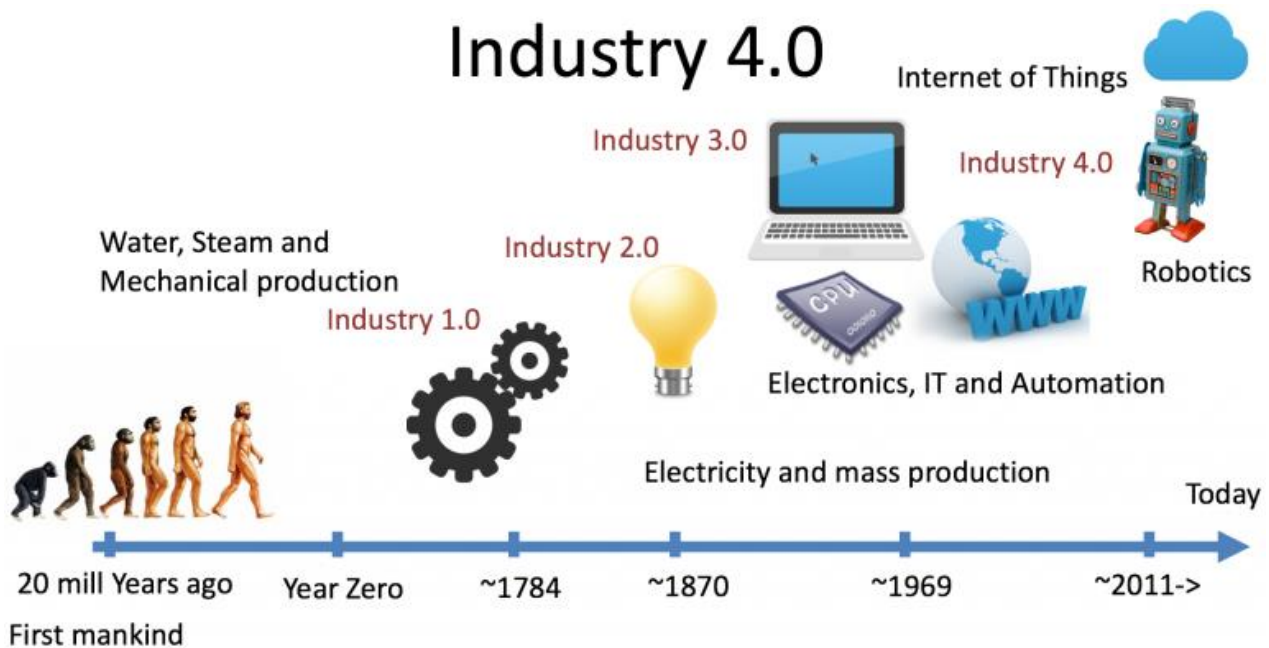
- The term 'Industry 4.0' was coined by the German government in 2011.
- Industry 4.0 refers to a new phase in the Industrial Revolution that focuses heavily on interconnectivity, automation, machine learning, and real-time data.
- Industry 4.0, which encompasses IIoT and smart manufacturing, marries physical production and operations with smart digital technology, machine learning, and big data .
- The aim is to create a more holistic and better connected ecosystem for companies that focus on manufacturing and supply chain management.
- While every company and organization operating today is different, they all face a common challenge—the need for connectedness and access to real-time insights across processes, partners, products, and people.
- That's where Industry 4.0 comes into play.

Evolution of Industry from 1.0 to 4.0

The First Industrial Revolution

- The first industrial revolution happened between the late 1700s and early 1800s.
- During this period of time, manufacturing evolved from focusing on manual labor performed by people.

- Labor was aided by work animals to a more optimized form of labor performed by people through the use of water and steam-powered engines and other types of machine tools.



The Second Industrial Revolution

- In the early part of the 20th century, the world entered a second industrial revolution with the introduction of steel and use of electricity in factories.
- The introduction of electricity enabled manufacturers to increase efficiency and helped make factory machinery more mobile.
- It was during this phase that mass production concepts like the assembly line were introduced as a way to boost productivity.

The Third Industrial Revolution

- Starting in the late 1950s, a third industrial revolution slowly began to emerge, as manufacturers began incorporating more electronic—and eventually computer—technology into their factories.
- During this period, manufacturers began experiencing a shift that put less emphasis on analog and mechanical technology and more on digital technology and automation software.

The Fourth Industrial Revolution, or Industry 4.0

- In the past few decades, a fourth industrial revolution has emerged, known as Industry 4.0.
- Industry 4.0 takes the emphasis on digital technology from recent decades to a whole new level with the help of interconnectivity through the Internet of Things (IoT), access to real-time data, and the introduction of cyber-physical systems.
- Industry 4.0 offers a more comprehensive, interlinked, and holistic approach to manufacturing.
- It connects physical with digital, and allows for better collaboration and access across departments, partners, vendors, product, and people.
- Industry 4.0 empowers business owners to better control and understand every aspect of their operation, and allows them to leverage instant data to boost productivity, improve processes, and drive growth.

Industry 4.0 Technologies

1. Big Data & Analytics

- Big Data is massive amounts of data. Mountains of stats and numbers so huge that humans and teams could spend years sifting through it manually and still not derive a lot of real value.
- Using today's advanced computing capabilities, those huge streams of pure, unadulterated data can be transformed into accurate, actionable insights that can drive decision-making for manufacturing leaders.
- Data sources can include everything from IoT sensors on factory floors and lighting systems to sales data or supply chain-related factors like the weather and political climate.

2. Autonomous Robots

- Autonomous robots are self-sufficient machines that can manage their tasks intelligently without the need for a human operator.
- They quickly and accurately perform repetitive tasks, even if they are complex, while requiring little to no downtime except for maintenance.
- Example: Autonomous robots are used in manufacturing to hold and move heavy items on a production line. This helps to prevent human injury for welding, assembly, and palletization.

3. Simulation / Digital Twins

- It is creating a simulation of a real-world object, concept, or area within a digital space.
- It can include a 3D representation of all of the physical assets, operational systems and structures within an entire facility. The use cases for digital twin systems are hugely broad.
- Example:
 - Using industrial IoT sensors, a manufacturing company can “see” their entire shop floor in virtual space. They can view the location of every asset, its uptime, and maintenance needs (even those that have not yet arisen). They can even ‘look’ inside of machines which would be dangerous or costly to open in real life.

4. Additive Manufacturing

- Additive manufacturing means creating items layer by layer, adding new material rather than subtracting it.
- This is compared to the old way of manufacturing (subtractive manufacturing), which covers tasks like cutting and carving wood, etc.
- Example of Additive Manufacturing in the Manufacturing Industry
 - 3D printing is a form of additive manufacturing. Mainstream adopters include Adidas which 3D prints shoes, the designs of which were created based on big data.

5. Artificial Intelligence and Machine Learning

- Artificial intelligence and machine learning refer to machines which utilize algorithms to process data and reach conclusions that were not programmed into them by human developers.
- These machines learn from data in order to generate increasingly accurate predictions.
- Example of Artificial Intelligence
 - AI works well to forecast and predict market changes for manufacturers.

6. Augmented Reality

- Augmented reality includes extra sensory input, usually visual, overlaid onto the actual world. Common examples include Google Glass and the game Pokémon Go.
- Example of Augmented Reality:
- New employees can learn how to use machinery that could be dangerous in a safe, virtualized environment before entering the factory floor.
- Augmented reality also allows technicians to see insidedangerous and complicated machinery before they open it up, so they know exactly what they're looking for and what to do before they start.

7. IoT

- The Internet of Things (IoT) is a network of physical objects that are fitted with sensors, software and other technologies.
- Connected to the Internet, these 'things' are able to exchange real time data with other connected devices and systems over networks.
- Example:
- If each machine on a production floor has an IoT device connected to it that monitors production efficiency, usage, uptime, etc., then this data can be used in conjunction with a machine learning algorithm.
- This determines which piece of machinery represents the highest priority bottleneck as well as how to fix it.

Horizontal and Vertical System Integration

- Horizontal and vertical integration has been called the “backbone of Industry 4.0.”
- Machines and companies are constantly communicating and sharing data, helping to achieve deeper analysis opportunities, greater transparency, and increased efficiency for all.
- Example
- If a company has within it multiple production facilities, horizontal integration can ensure seamless sharing about data issues such as inventory levels and delays.

- Vertical integration in manufacturing can include breaking down interdepartmental silos so the entire organization works as a unit—from R&D to procurement, and manufacturing to sales and beyond.
- Everyone shares data, everyone benefits and everyone operates dynamically.

INDEGENOUS HYDROGEN FUELLED ELECTRIC VESSELS

In News:

- The Government unveiled plan for building first indigenous Hydrogen Fuelled Electric Vessels.

Analysis of Background:

- The hydrogen fuel cell vessel based on Low Temperature Proton Exchange Membrane Technology (LT-PEM) called Fuel Cell Electric Vessel (FCEV) is expected to cost around Rs 17.50 crore of which 75 per cent would be funded by the Government.
- The move is part of India's transformative efforts on the innovative and new technology front on green energy, sustainable cost-effective alternate fuel front.
- Hydrogen fuel cells can be used in a wide range of applications, including transportation, material handling, stationary, portable, and emergency backup power applications.
- Fuel cells operating on hydrogen fuel are an efficient, environmentally-friendly, zero emission, direct current (DC) power source and are now under development for marine applications.

ELECTRIC VEHICLES CATCHING FIRE

In News:

- The Union government has constituted an expert panel to probe the recent series of battery explosions in electric vehicles (EVs).

Analysis of Background:

- E-scooters from Okinawa Scooters, Ola Electric, Pure EV, and Jitendra Electric Vehicles have gone up in flames in recent weeks, putting the electric vehicle industry under pressure.
- An EV battery explosion has claimed one life and left two others injured in Hyderabad. An 80-year-old man died at his home in Telangana's Nizamabad district after the battery of an electric scooter exploded while being charged.
- Manufacturers such as Okinawa and Pure EV have recalled some batches of electric scooters after their vehicles caught fire. After the enquiry, the Ministry of Road Transport intends to issue guidelines for EVs, including tests for compliance with safety norms.

Components of Li-ion battery

- Every Li-ion battery consists of three active components: the anode, typically graphite; the cathode, typically based on a nickel, cobalt, and manganese-based oxide; and an electrolyte, typically a salt of lithium in an inorganic solvent. Battery manufacturing is a complex operation involving forming sheets of the anode and cathode and assembling them into a sandwich structure held apart by a thin separator.

Features of Lithium-ion batteries

- Lithium-ion batteries, which came into commercial use in the early 1990s, have a very high energy density and are less likely than most batteries to lose their charge when not being used -- a property called self discharge.
- Because of their light weight and low maintenance requirements, lithium-ion batteries are widely used in electronic devices such as laptop computers.

- Some experts believe that lithium-ion batteries are about as close as science has yet come to developing a perfect rechargeable battery, and this type of battery is the best candidate for powering the electric cars. These batteries are also used in most portable electronics, including cell phones and computers.
- Lithium-ion batteries have a high power-to-weight ratio, high energy efficiency and good high-temperature performance.
- In practice, this means that the batteries hold a lot of energy for their weight, which is vital for electric cars – less weight means the car can travel further on a single charge.
- Lithium-ion batteries also have a low “self-discharge” rate, which means that they are better than other batteries at maintaining the ability to hold a full charge over time.
- Additionally, most lithium-ion battery parts are recyclable making these batteries a good choice for the environmentally conscious.
- The major advantage of lead-acid batteries is that, they are cheap to produce. However, they do produce dangerous gases while being used and if the battery is overcharged there's a risk of explosion.

What causes battery fires?

- Battery fires, like other fires, occur due to the convergence of three parts of the “fire triangle”: heat, oxygen, and fuel.
- If an adverse event such as a short circuit occurs in the battery, the internal temperature can raise as the anode and cathode release their energy through the short.
- This, in turn, can lead to a series of reactions from the battery materials, especially the cathode, that release heat in an uncontrolled manner, along with oxygen.
- Such events also rupture the sealed battery further exposing the components to outside air and the second part of the fire triangle, namely, oxygen.
- The final component of the triangle is the liquid electrolyte, which is flammable and serves as a fuel. The combination leads to a catastrophic

failure of the battery resulting in smoke, heat, and fire, released instantaneously and explosively.

- The trigger for such events can be a result of
 1. Internal shorts (like a manufacturing defect that results in sharp objects penetrating the separator),
 2. External events (an accident leading to puncture of the cell and shorting of the electrodes),
 3. Overcharging the battery which leads to heat releasing reactions on the cathode (by a faulty battery management system that does not shut down charging despite the battery achieving its designed charge state), or
 4. Bad thermal design at the module and pack level (by not allowing the battery internal heat to be released). Any of these triggers may cascade into a significant safety incident.

Preventing Fires

- Preventing fires requires breaking the fire triangle. Battery cathodes are a leading cause of the heat release. Some cathodes, such as ones with lower nickel content or moving to iron phosphate, can increase safety.
- Tightly controlled manufacturing will prevent accidental shorts in the cells, eliminating a leading cause of fires.
- Many companies now add a ceramic layer on the separator to mechanically prevent shorts.
- Sensing the state of the battery and integrating this data into sophisticated battery management systems is an important aspect of design.
- Protecting the cell with robust thermal management is critical, especially in India where ambient temperatures are high.
- Finally, battery packs need to be protected from external penetration. Any large-scale manufacturing process inevitably has a certain percentage of defects; therefore, such steps are needed to minimise the number of adverse events.

GM CROPS

In News:

The Department of Biotechnology (DBT) has issued the 'Guidelines for Safety of Genome Edited Plants, 2022' to ease norms for research into genetically modified (GM) crops and circumvent the challenges of using foreign genes to change crops profile.

Analysis of Background:

Genome editing

- Genome editing enables modification of plants' owned genes, without insertion of external genes, as with GM crops.
- Genome-edited varieties possess no foreign DNA and are indistinguishable from crops developed through conventional plant-breeding methods or using naturally occurring mutations.

The Guidelines for Safety of Genome Edited Plants, 2022

- The guidelines have exempted the researchers who use gene-editing technology to modify the genome of the plant from seeking approvals from the Genetic Engineering Appraisal Committee (GEAC), an expert body of the Environment Ministry.
- The guidelines are a road map for the development and sustainable use of genome editing technologies in India, specifying the biosafety and/or environmental safety concerns and describing the regulatory pathways to be adopted while undertaking the genome editing of plants.

Environmental Concerns

- Environmentalists have opposed the exception as gene editing is included in genetic engineering which requires regulatory review.
- The function of genes can cause "large and unintended consequences" that can change the "toxicity and allergenicity" of plants.

- Gene editing can address some of the fears around the use of ‘foreign genes’ but it can only be used to express genes already present in a plant’s genome that are not manifest.

e-WASTE

In News:

- Consumer goods companies and makers of electronics goods have to ensure at least 60% of their electronic waste is collected and recycled by 2023 with targets to increase them to 70% and 80% in 2024 and 2025, respectively

Background of e- Waste

- According to Global E-waste Monitor 2020, Global e-waste will increase by 38 per cent in the decade between 2020 and 2030.
- There was 6 million tonnes of electronic waste in 2019 which is an average of 7.3 kg per capita. That is a nearly 21 per cent increase in just five years
- Asia generated the greatest volume of e-waste in 2019.
- Most E-waste in 2019 consisted of small equipment, large equipment and temperature exchange equipment.
- Less than 18 per cent of the e-waste generated in 2019 was collected and recycled.
- The number of countries that have adopted a national e-waste policy, legislation or regulation has increased from 61 to 78 and includes India. It is far from the target set by the International Telecommunication Union to raise the percentage of countries with an e-waste legislation to 50 per cent.
- The Global E-waste Monitor 2020 is a collaborative product of the Global E-waste Statistics Partnership, formed by the United Nations University, International Telecommunication Union, International Solid Waste Association, UN Environment Programme.

E-Waste

- E-Waste is short for Electronic-Waste and the term used to describe old, end-of-life or discarded electronic appliances.

- It is categorised into 21 types under two broad categories: Information technology and communication equipment and Consumer electrical and electronics.
- E-waste includes their components, consumables, parts and spares.
- E-waste contains several toxic additives or hazardous substances such as mercury, brominated flame retardants (BFR), CFCs and HCFCs.
- The increasing levels of e-waste, low collection rates, and non-environmentally sound disposal and treatment of this waste stream pose significant risks to the environment and to human health.
- International E-Waste Day has been observed on 14th October since 2018.

India specific

- There are 312 authorised recyclers of e-waste in India, with the capacity for treating approximately 800 kilotonnes annually.
- About 90 per cent of the country's e-waste is recycled in the informal sector.
- India's first e-waste clinic for segregating, processing and disposal of waste from household and commercial units has been set-up in Bhopal, Madhya Pradesh.
- According to the Central Pollution Control Board (CPCB), India generated more than 10 lakh tonnes of e-waste in 2019-20, an increase from 7 lakh tonnes in 2017-18. Against this, the e-waste dismantling capacity has not been increased from 7.82 lakh tonnes since 2017-18.
- Concerns:
 - Toxicity: E-waste consists of toxic elements such as Lead, Mercury, Cadmium, Chromium, Polybrominated biphenyls and Polybrominated diphenyl.
 - Effects on Humans: Some of the major health effects include serious illnesses such as lung cancer, respiratory problems, bronchitis, brain damages, etc. due to inhalation of toxic fumes, exposure to heavy metals and alike.
 - Effects on Environment: E-waste is an environmental hazard causing groundwater pollution, acidification of soil and contamination of

groundwater and air pollution due to the burning of plastic and other remnants.

Challenges Related to Management of E-Waste in India:

- A key factor in used electronic devices not being given for recycling was because consumers themselves did not do so.
- In India, about 5 lakh child laborers in the age group of 10-14 are observed to be engaged in various E-waste activities and that too without adequate protection and safeguards in various yards and recycling workshops.
- There is absence of any public information on most State Pollution Control Boards (SPCBs)/PCC websites.
- No clear guidelines are there for the unorganized sector to handle E-waste.
- Also, no incentives are mentioned to lure people engaged to adopt a formal path for handling E-waste.
- 80% of E-waste in developed countries meant for recycling is sent to developing countries such as India, China, Ghana and Nigeria.
- Lack of coordination between various authorities responsible for E-waste management and disposal including the non-involvement of municipalities.
- End of life computers often contain sensitive personal information and bank account details which, if not deleted leave opportunity for fraud.

International Conventions and government initiatives:

- Originally the Basel Convention did not mention e-waste but later it addressed the issues of e-waste in 2006 (COP8).
- Nairobi Declaration was adopted at COP9 of the Basel Convention. It aimed at creating innovative solutions for the environmentally sound management of electronic wastes.
- Rotterdam Convention, 2004 seeks to promote exchange of information among Parties over a range of potentially hazardous that may be exported or imported.
- In India prior to 2011, e-waste was covered under the Hazardous Waste Management (HWM) Rules.
- In 2011, under the Environmental Protection Act 1986, the E-waste (Management and Handling) Rules, 2011 were enacted

- In 2016, the E-Waste (Management) Rules, 2016 were enacted which replaced the 2011 Rules. The Rules were amended in 2018
- CPCB has also issued guidelines Environmentally Sound Management of E-waste (on Collection, Storage, Dismantling & Segregation, Recycling, and Treatment & Disposal of E-Waste)
- Awareness Program on Environmental Hazards of Electronic Waste initiated by Ministry of Electronics and Information Technology
- Creation of Management Structure for Hazardous Substances seeks to raise awareness among people about the 2016 Rules and its implementation.
- Swachh Digital Bharat seeks to create awareness among the public about the hazards of e-waste recycling by the unorganised sector, and to educate them about alternate methods of disposing of their e-waste.

NGT's Directions

- Further steps should be taken for scientific enforcement of E-Waste Management Rules, 2016 (EWMR) in the light of the reports of the CPCB.
- It noted gaps in collection targets, as the amount of e-waste collected in 2018-19 was 78,000 tonnes against a target of 1.54 lakh tonnes. There are clear governance deficits on the subject.
- The CPCB may consider steps for compliance of Rule 16 requiring reduction in the use of Hazardous substances in the manufacture of electrical and electronic equipment and their components or consumables or parts or spares.
- It took note that a large number of accidents take place in residential areas on account of unscientific handling of e-waste.
- This needs special attention for constant vigilance in such hotspots. This also requires review and updation of siting norms for e-waste by the CPCB which may be done within three months.
- All the state pollution control boards need to identify the hotspots by constant vigil and to coordinate with the District Administration at local levels to prevent damage to the environment and public health and meaningful enforcement of rule of law.

E-Waste Management Rules, 2016

- The Ministry of Environment, Forest and Climate Change notified the E-Waste Management Rules, 2016 in supersession of the E-waste (Management & Handling) Rules, 2011.
- Over 21 products (Schedule-I) were included under the purview of the rule. It included Compact Fluorescent Lamp (CFL) and other mercury containing lamps, as well as other such equipment.
- For the first time, the rules brought the producers under Extended Producer Responsibility (EPR), along with targets. Producers have been made responsible for the collection of E-waste and for its exchange.
- Various producers can have a separate Producer Responsibility Organisation (PRO) and ensure collection of E-waste, as well as its disposal in an environmentally sound manner.
- Deposit Refund Scheme has been introduced as an additional economic instrument.
- The role of State Governments has been also introduced to ensure safety, health and skill development of the workers involved in dismantling and recycling operations.
- A provision of penalty for violation of rules has also been introduced.
- Urban Local Bodies (Municipal Committee/Council/Corporation) have been assigned the duty to collect and channelize the orphan products to authorized dismantlers or recyclers.
- Allocation of proper space to existing and upcoming industrial units for e-waste dismantling and recycling.

PALM OIL

In News:

- India's palm oil imports could drop by almost a fifth as cheaper soy oil takes more market share, following Indonesia's curbs on palm oil exports.
- India allowed duty-free imports of two million tonnes each of soy oil and sunflower oil for the current and next fiscal years ending March 31, as part of efforts to local edible-oil prices under control.

Analysis of Background:

Palm Oil

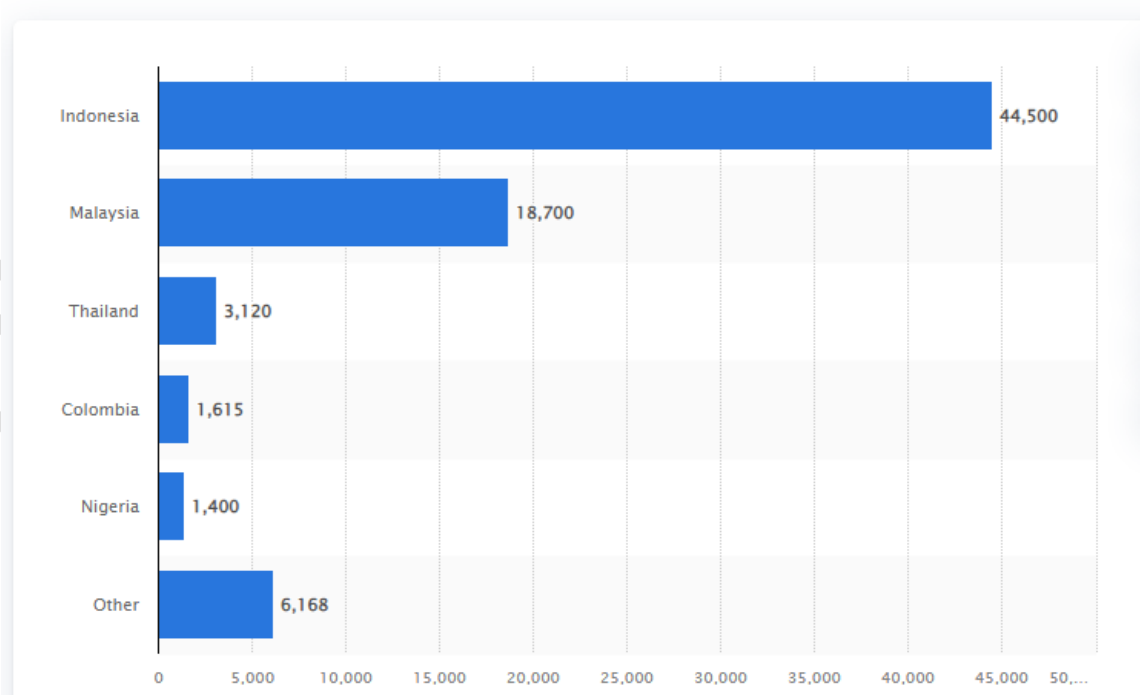
- Palm oil is an edible vegetable oil derived from the mesocarp (reddish pulp) of the fruit of the oil palms.
- Along with coconut oil, palm oil is one of the few highly saturated vegetable fats and is semisolid at room temperature.
- It is resistant to oxidation and so can give products a longer shelf-life; it's stable at high temperatures
- Hence, the oil is used in food manufacturing, in beauty products, and as biofuel.
- Its use in the commercial food industry in other parts of the world is widespread because of its lower cost.

Production:

- Indonesia is the largest producer of palm oil, followed by Malaysia - both countries account for 84% of the world's palm production. The largest producers of palm oil are Thailand, Colombia and Nigeria.
- Globally, palm oil supplies 35% of the world's vegetable oil demand on just 10% of the land.

Leading producers of palm oil worldwide from 2021/2022

(in 1,000 metric tons)



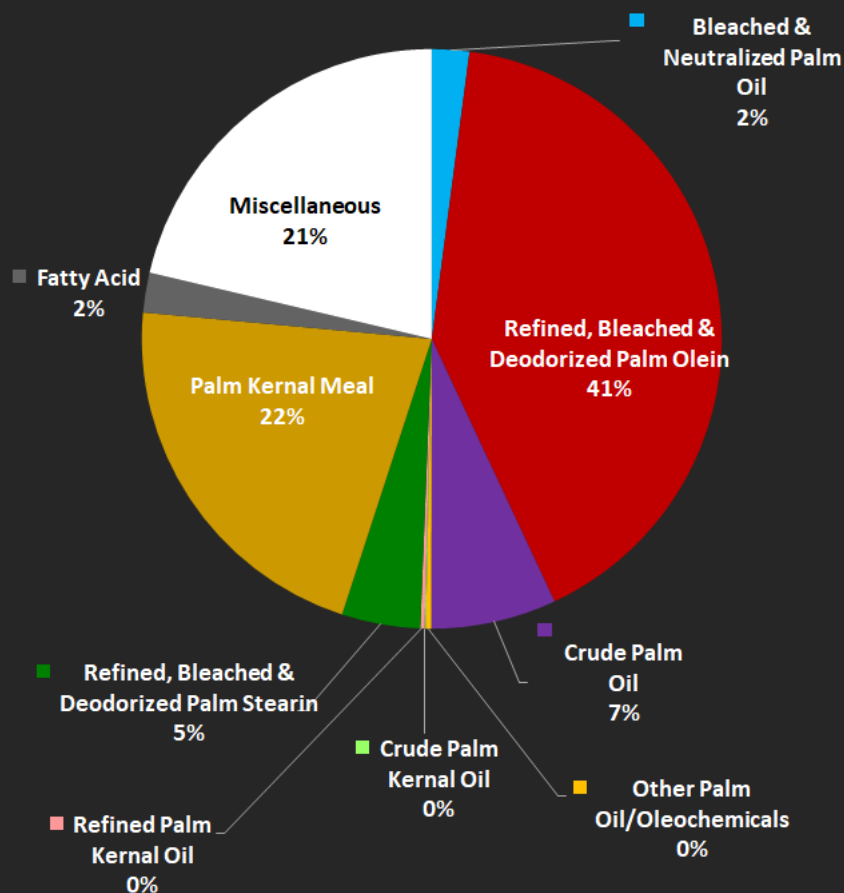
Consumption

- The largest consumer of palm oil are India (9.4 million tonnes) and Indonesia (6 million tonnes)– countries in which palm oil is traditionally used for cooking.
- The largest importer of palm oil is India(19 per cent), followed by the European Union (15 per cent, 7.3 million tonnes) and China (14 per cent) (Index Muni, 2020).

The recent ban by Indonesia

- Indonesia has confirmed that the ban will only apply to exports of refined, bleached and deodorized (RBD) palm olein, and would not affect flows of crude palm oil or other forms of derivative products.
- However, it will widen the ban if there is a shortage of refined palm oil.
- RBD palm olein accounts for around 40% of Indonesia's total exports of palm oil products.

Indonesia palm product exports by share in 2021



Source:
Refinitiv

Why has Indonesia banned the export of palm oil?

- Indonesia, much like most of the world, is grappling with inflation and a shortage of palm oil, as high exports of the commodity, has further fuelled inflation in that country.
- Of late, there have been multiple protests in the country on rising food prices.
- The country is also facing an acute shortage of edible oil including palm oil.
- Rise in palm oil prices has been a cause of worry for the Indonesian government.
- To stem the rising prices of palm oil, the government banned its exports and removed retail price caps on the commodity, which had led to the shortage of the commodity.
- So, it has made a series of interventions over the past few months, including capping local prices, providing higher subsidies, hiking export duty, and controlling exports through surveillance and documentation, etc.

Why are palm oil prices rising?

- Palm oil prices, have jumped 50 percent in the last 12 months and nearly tripled over two years. The rise in prices is the result of multiple factors.
- The key price drivers, are :
 1. Weather conditions in top oil-producing nations,
 2. Demand-supply balance of competing oils like soya bean, rapeseed, sunflower, etc.,
 3. Demand environment and mix of edible oils in consuming countries, and
 4. Demand for palm-based bio-diesel, especially in Indonesia and Malaysia.
 5. A labour unrest in Malaysia also led to a shortage of the product last year.
 6. With the Russia-Ukraine war, prices of the commodity climbed again.

India's Palm Oil requirements

- As per ICRA, palm oil accounts for about 40 percent of total edible oil consumption in India and 60 percent of imports.
- Almost India's entire palm oil requirement is met by Indonesia and Malaysia.
- Indonesia though, was the largest exporter of palm oil to India historically, imports of the commodity from Malaysia increased in recent years.
- Currently, India imports less than 50 percent of its palm oil needs from Indonesia, which though lesser than Malaysia, is still substantial.
- India imported about 500,000 tons of crude palm oil from Indonesia in the five months ended March 2022.
- RBD palm olein purchases totaled 475,000 tons, according to data compiled by the Solvent Extractors' Association of India.

Plausible implications of recent export bans on India

- Indonesia's palm oil export ban has huge implications for the Indian consumers, as it would lead to a further jump in prices of several daily-use items.
- Palm oil is a key commodity for several products, such as soaps, shower gels, hand washes, shampoos, oral care products, and processed food products, such as noodles, biscuits, and frozen desserts.
- The commodity is cheaper compared to other edible oils, and hence, is used by the hotels, restaurants and caterers (HoReCa) industry
- Palm oil is a key ingredient in the food processing industry. Rising prices of palm oil will impact costs and margins of several consumer companies.
- The impact would be seen most in categories, such as biscuits, noodles, cakes, potato chips, frozen desserts.
- The restaurant industry is already grappling with a 10-12 percent increase in operational costs due to inflation. And now with prices of palm oil set to surge again, the industry might pass on the costs to the consumers.

How will this impact FMCG companies and QSRs?

- The margins of FMCG companies and QSRs have been under stress for several quarters now, as they battle inflation across key commodities. A tepid demand scenario makes it challenging to pass on the cost to consumers. A further price rise in palm oil, fuelled by the ban, can increase their troubles.
- Fast-moving consumer goods (FMCG), majors such as Britannia, Hindustan Unilever, Nestle India and ITC would be amongst the key companies affected directly as a result of the ban and higher prices.
- Quick service restaurant (QSRs) like Westlife Development and Burger King will also suffer, given the use of edible oil to cook/ fries.

Palm Oil: India specific

- In India, oil palm is being cultivated in 13 states. Potential states are Andhra Pradesh, Gujarat, Karnataka, Tamil Nadu and Bihar.
- Andhra Pradesh (83.5 percent) along with Telangana accounts for about 97 percent of India's 278,000 tonnes of crude palm oil production.

National Mission on Edible Oils-Oil Palm (NMEO-OP)

- Under this mission the government will focus on increasing the oil palm cultivation to 10 lakh hectares by 2025-26 and 16.7 lakh hectares by 2029-30.
- The Centre will provide some financial assistance to farmers to ensure that they get a good price for their produce. It will work out the formula price and the viability price of the produce.
- The weather condition in North East and Andaman and Nicobar Islands is conducive for oil palm cultivation and this is the reason why the special focus of the mission will be on these two areas.

Other Concerns associated with Palm Oil Production

- Deforestation: Palm oil has been and continues to be a major driver of deforestation of some of the world's most biodiverse forests, destroying the

habitat of already endangered species like the Orangutan, pygmy elephant and Sumatran rhino.

- GHGs: This forest loss coupled with conversion of carbon rich peat soils are throwing out millions of tonnes of greenhouse gases into the atmosphere and contributing to climate change.
- Labour exploitation: There remains some exploitation of workers and child labour.

BIODIVERSITY LAW

In News:

Recently, Biological Diversity (Amendment) Bill, 2021, was introduced in the Parliament. The seeks to amend the Biological Diversity Act, 2002 to simply compliance requirements for domestic companies.

Senior Congress leader Jairam Ramesh raised concern over the exemption given to AYUSH practitioners as per the new amendment bill.

Analysis of Background:

Biodiversity

- Biodiversity refers to the variety of life forms that exist on the planet. Human activities on the planet have created challenges for biodiversity such as loss of habitat, deterioration of ecological systems, and extinction or threat of extinction for species.

Key features of the bill

- The Act requires prior approval or intimation to the regulatory authority based on the origin of the entity for obtaining biological resources occurring in India or associated knowledge.
- The regulatory authorities under the Act for these purposes are National Biodiversity Authority (NBA) and State Biodiversity Boards (SBB).

The Biological Diversity Act, 2002	Changes made by the Bill
<p>Approval is required from NBA (for certain foreign entities)</p> <ul style="list-style-type: none"> · Entities: (i) foreign individuals, (ii) non-resident Indians, (iii) companies not registered in India, and (iv) companies registered in India and having non-Indian participation in share capital or management · Activities: obtaining biological resources occurring in India or associated knowledge for: (i) research, (ii) commercial utilisation, or (iii) bio-survey and bio-utilisation <p>Prior intimation required to SBB (for certain domestic entities)</p> <ul style="list-style-type: none"> · Entities: (i) Indian citizens, and (ii) companies registered in India except those which require NBA approval · Activities: obtaining biological resources occurring in India for commercial utilisation · Exemptions: use by local people and communities including growers and cultivators of biodiversity, and v aids and hakims practising indigenous medicine 	<p>Approval from NBA</p> <ul style="list-style-type: none"> · Entities: changes the last category to companies registered in India which are “foreign-controlled” companies as under the Companies Act, 2013 <p>Prior intimation to SBB</p> <ul style="list-style-type: none"> · Activities: access to associated knowledge for commercial utilisation will also require prior intimation · Exemptions: adds exemptions for (i) codified traditional knowledge, (ii) cultivated medicinal plants and their products, (iii) AYUSH practitioners; limits the exception to v aids and hakims, and AYUSH practitioners to use for sustenance and livelihood

- The amendments also streamline the process of Patenting for Indian researchers to encourage patenting. For this, regional patenting centres will be opened across the country.
- It seeks to give a fillip to the “Indian system of medicine”, and facilitate fast-tracking of research, the patent application process, and transfer of research results while utilising the biological resources available in India.
- It seeks to decriminalise certain provisions in the chain of biological resources. These changes were brought in consonance with India’s ratification of the Nagoya Protocol (access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation) in 2012.
- The Bill seeks to exempt registered AYUSH medical practitioners and people accessing codified traditional knowledge, among others, from giving prior intimation to State biodiversity boards for accessing biological resources for certain purposes.

Key Issues:

- **Codified traditional knowledge:** The 2002 Act requires users of biological resources and associated knowledge to share benefits with local communities. The Bill exempts users of “codified traditional knowledge” from this requirement.
- The Bill has not defined the term ‘codified traditional knowledge’.
- **Local communities:** The Act states that while granting approvals for various activities, National Biodiversity Authority (NBA) will determine terms for benefit sharing. Such approval should be by the mutually agreed terms between the applicant, concerned local bodies, and benefit claimers.
- The Bill removes the direct role of local bodies and benefits claimers in determining mutually agreed terms.
- **Offences and penalties:** Under the Act, offences are punishable with imprisonment of up to five years or a fine, or both.
- The Bill decriminalises the offences and makes them punishable with a penalty.
- There is no guidance to the adjudicating officer on how to assess the penalty within the one lakh rupees and one crore rupees range.

- Bio-piracy: The exemptions to AYUSH Practitioners no longer need to take approvals, which would pave the way for “biopiracy”.
- Biopiracy is the practice of exploiting naturally occurring genetic or biochemical material in commerce.

NATIONAL DISASTER MANAGEMENT AUTHORITY

In News:

The National Disaster Management Authority (NDMA) organised a one-day Consultative workshop for 'Forest Fire Management in India' yesterday in New Delhi in collaboration with the Ministry of Environment, Forests & Climate Change.

Analysis of Background:

- The NDMA is the apex body for disaster management in the country.
- It works under the administrative control of the Union Ministry of Home Affairs.
- The Government of India, recognizing the importance of disaster management as a national priority, had set up a High Powered Committee in 1999 and a National Committee in 2001 after the Gujarat earthquake, to make recommendations on the preparation of disaster management plans and suggest effective mitigation mechanisms.
- After the Indian Ocean tsunami of 2004, the Government of India took a defining step in the legislative history of the country by enacting the Disaster Management Act, 2005.
- The Act provided for the creation of the National Disaster Management Authority (NDMA) to spearhead and implement a holistic and integrated approach to disaster management in the country.
- The NDMA consists of a chairperson (Prime Minister) and other members, not exceeding nine.

Aims and Objectives

- To promote a culture of prevention, preparedness and resilience at all levels through knowledge, innovation and education.

- To encourage mitigation measures based on technology, traditional wisdom and environmental sustainability.
- To approve plans prepared by the Ministries or Departments of the Government of India in accordance with the National Plan.
- To mainstream disaster management into the developmental planning
- To establish institutional and techno-legal frameworks to create an enabling regulatory environment and a compliance regime.
- To ensure an efficient mechanism for identification, assessment and monitoring of disaster risks.
- To lay down policies on disaster management.
- To develop contemporary forecasting and early warning systems backed by responsive and failsafe communication with information technology support.
- To ensure efficient response and relief with a caring approach towards the needs of the vulnerable sections of the society.
- To undertake reconstruction as an opportunity to build disaster resilient structures and habitat for ensuring safer living.
- To promote a productive and proactive partnership with the media for disaster management.

THE STATE OF WORLD'S BIRDS

In News:

- The State of the World's Birds, an annual overview of environmental resources published by the Manchester Metropolitan University (MMU).
- The report attributed the threat to almost half of the 10,994 recognised extant species of birds to the expanding human footprint on the natural world and climate change.

Analysis of Background:

Key findings of the report

- Humans eat 14% of the world's surviving species of birds. However, this is not the only reason why 48% of the extant bird species are undergoing

population decline, a study by nine renowned avian experts and conservationists has revealed.

- The degradation and loss of natural habitats, as well as direct overexploitation of many species, are the key threats to avian biodiversity.
- The use of 37% of the surviving bird species as common or exotic pets and 14% as food are examples of direct overexploitation, the report indicates.
- The review found that 5,245 or about 48% of the existing bird species worldwide were known or suspected to be undergoing population decline.
- While 4,295 or 39% of the species had stable trends, about 7% or 778 species had increasing population trends. The trend of 37 species was unknown.
- The study underlines birdwatching, a global pastime involving millions of people, as a form of avian conservation but warns of “local negative impacts” of birds feeding valued at \$5-6 billion per year and growing by 4% annually.
- Avian diversity peaks globally in the tropics and it is there that we also find the highest richness of threatened species. We know a lot less about the fortunes of tropical bird species than we do about temperate ones, but we are now witnessing the first signs of a new wave of extinctions of continentally-distributed bird species, which has followed the historic loss of species on islands like the dodo.
- The study, which involved scientists from Manchester Metropolitan, Cornell University, Birdlife International, the University of Johannesburg, Pontifical Xavierian University, and the India-based Nature Conservation Foundation (NCF), reviewed changes in avian biodiversity using data from the International Union for Conservation of Nature’s Red List to reveal the changes in fortunes of all the global bird species.
- Apart from tropical forests, the threat of natural grasslands has been particularly worrying for North America, Europe and India.
- If unique ecosystems like grasslands are to retain their diverse birdlife, governments and research groups must prioritise such landscapes and their inhabitants for conservation and ensure that they do not become plantations or woodlands.

ENVIRONMENTAL IMPACT ASSESSMENT

In News:

The Forest Department of Karnataka, which had been supportive of the Jog Development Projects and had recommended 'in principle acceptance' of environmental clearance for a five-star hotel, experienced a setback when the Centre questioned if any environmental impact analysis had been conducted.

Analysis of Background:

Environmental Impact Assessment:

- Environmental Impact Assessment, or EIA, is a process or research that estimates the environmental impact of a proposed industrial or infrastructure project.
- Environmental Impact Assessment (EIA) is a tool that planners can use to achieve the goal of environmental preservation while still allowing for development.
- UNEP defines Environmental Impact Assessment (EIA) as a tool used to identify the environmental, social, and economic impacts of a project prior to decision-making. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment, and present the predictions and options to decision-makers.
- The Environment Protection Act of 1986, which incorporates numerous rules on EIA methodology and procedure, provides legal backing for environmental impact assessments in India.

What are the steps involved?

- Data collection from primary and secondary sources as a baseline;
- Impact prediction based on previous experience and mathematical modelling;
- Impacts evolution versus net cost-benefit analysis;
- Preparation of environmental management plans to minimise negative effects;

- Quantitative calculation of the monitoring plan's and mitigation measures' financial costs.

What is the importance of EIA?

- For ecologically safe and sustainable development, EIA connects the environment with development.
- EIA is a cost-effective way to eliminate or reduce the negative effects of development initiatives.
- EIA allows decision-makers to assess the impact of development activities on the environment long before the project is executed.
- EIA urges the development plan to incorporate mitigation techniques.
- EIA ensures that the development plan is ecologically sound and operates within the ecosystem's capacity for absorption and regeneration.

ORGANIC FARMING

In News:

Vice President, Shri M. Venkaiah Naidu underlined the importance of organic farming for sustainable and stable development.

Analysis of Background:

- In a world with the emergence of numerous diseases, food safety is a major concern as well as a necessity.
- Extensive usage of chemical fertilizers and pesticides stands as an impediment towards the maintenance of a proper health profile of the population.
- Therefore, the practice of organic farming opens up a sustainable doorway to prevent various health hazards originating from the agro-based products that we consume.
- This would bring down the usage of pesticides and chemical fertilizers in agriculture.
- The road to transform the agricultural practices in India to absolutely an organic one, is accompanied by challenges that require expert intervention and a proper discussion.

About Organic Farming:

- The FAO defines organic farming as a unique production management system that promotes and enhances agro-ecosystem health, biodiversity, biological cycles and soil biological activity.
- According to FSSAI, 'organic farming' is a system of farm design and management to create an ecosystem of agriculture production without the use of synthetic external inputs such as chemical fertilisers, pesticides and synthetic hormones or genetically modified organisms.
- Organic farm produce means the produce obtained from organic agriculture, while organic food means food products that have been produced in accordance with specified standards for organic production.

Principles of Organic Farming in India

- Organic agriculture grows and develops with these principles. These can contribute to improving organic agriculture for the world.
- There are four principles of organic farming are as follow:-
- Principles of Health – The health of the ecosystem, people, and communities.
- The Principles of Ecology – The right balance between ecosystem and environment or nature.
- Principles of Fairness – Good human relationships and quality of life.
- Principles of Care – The considerations about the environment and environment of the future.

Organic Farming in India

- India ranked 1st in terms of the number of organic farmers and 5th in terms of certified organic area.
- India ranks 8th in the world's total organic agricultural land.
- There has been a 51% increase in the production of organic products in 2020-21.
- So far, Sikkim is the only state to be considered fully organic. Besides, the states of Maharashtra, Rajasthan, Himachal Pradesh, Karnataka and the union territory of Jammu & Kashmir are ahead in the promotion and adoption of organic farming.

- North East India has traditionally been organic and the consumption of chemicals is far less than the rest of the country.
- Similarly the tribal and island territories have been traditionally practicing organic farming.
- The major organic exports from India have been flax seeds, sesame, soybean, tea, medicinal plants, rice and pulses.
- There was an increase of nearly 50% in organic exports in 2018-19, touching Rs. 5151 crore.
- Commencement of exports from Assam, Mizoram, Manipur and Nagaland to UK, USA, Eswatini and Italy have proved the potential by increasing volumes and expanding to new destinations as the demand for health foods increases.

Important Government Initiatives

- **Paramparagat Krishi Vikas Yojana:** promotes cluster based organic farming with PGS (Participatory Guarantee System) certification. Cluster formation, training, certification and marketing are supported under the scheme.
- **Rashtriya Krishi Vikas Yojana:** Assistance for promotion of organic farming on different components are also available with the approval of State Level Sanctioning Committee
- **One District - One Product:** The programme aims to encourage more visibility and sale of indigenous and specialized products/crafts of Uttar Pradesh, generating employment at the district level.
- **National Mission on Oilseeds and Oil Palm:** Financial assistance is being provided for different components including bio-fertilizers, supply of Rhizobium culture/Phosphate Solubilising Bacteria (PSB)/Zinc Solubilising Bacteria (ZSB)/ Azatobacter/Mycorrhiza and vermin-compost.
- **The Organic Farming Action Programme:** The objective is to promote and significantly develop organic farming by means of priority measures
- **Food Safety and Standards Authority of India (FSSAI)** is the food regulator in the country and is also responsible for regulating organic food in the domestic market and imports.
- **Participatory Guarantee System (PGS):** PGS is a process of certifying organic products, which ensures that their production takes place in accordance

with laid-down quality standards. PGS Green is given to chemical free produce under transition to 'organic' which takes 3 years. It is mainly for domestic purpose.

- National Program for Organic Production (NPOP):NPOP grants organic farming certification through a process of third party certification for export purposes.
- Agri-export Policy 2018:Focus on clusters and Marketing and promotion of "Produce of India" have positively impacted the organic farming in India
- Zero Budget Natural Farming:is a method of chemical-free agriculture drawing from traditional Indian practices.

Challenges in Organic Farming

- Shortage of Biomass:experts are not sure whether all the nutrients with the required quantities can be made available by the organic materials. Even if this problem can be surmounted, they are of the view that the available organic matter is not simply enough to meet the requirements
- Disparity of Supply and Demand:Non-perishable grains can be grown anywhere and transported to any location but this is not the case with fruits and vegetables.
- Time:organic farming requires greater interaction between a farmer and his crop for observation, timely intervention and weed control for instance.
- High MRP:It is almost obvious that due to the extreme care taken to go along with organic farming, the results would be kept at a high price.
- Lack of special infrastructure:Most large organic farms still operate in an industrialized agriculture style, including industrial transportation of the food from field to plate. Unfortunately, this involves the adoption of the same environmentally harmful practices as those of factory farms which are however hidden under the cover of being organic
- Marketing of organic produce is also not properly streamlined. There are a number of farms in India which have either never been chemically managed / cultivated or have converted back to organic farming because of farmers' beliefs or purely for reason of economics.

Benefits of organic farming:

- **Better Taste and More Nutrition:** This is due to the fact that they are given a much longer time to develop and are not pumped with artificial things.
- **Reduces pesticide and chemical residue in soil:** ensures the health of soil, water, air and flora and fauna.
- **Promotion of Biodiversity:** Crop rotation to build soil fertility and raising animals naturally helps promote biodiversity, which promotes greater health across all living species. As organic farms provide safe havens to wildlife, local ecosystems also improve.
- **Consumes Less Energy:** This is because manufacturing synthetic fertilizers consumes a significant amount of energy.
- **Long-term sustainability:** Organic farming takes a proactive, preventative approach instead of dealing with problems after they emerge which can be too late.
- **Reduced erosion and better water management**
- **Familiarity with the techniques:** Organic farming is like going back to the roots before mechanization hit the lands. Thus the farmers can easily understand and adapt to the techniques of organic farming that deploys traditional knowledge.

KISAN DRONES

In News:

- Union Minister of Agriculture and Farmers inaugurated and addressed the conference on “Promoting Kisan Drones: Issues, Challenges and the Way Ahead”.
- The government is promoting the use of drones for the convenience of the farmers, reducing the cost and increasing the income. For promoting use of Kisan Drones, the government is providing 50% or maximum Rs. 5 lakh subsidy to SC-ST, small and marginal, women and farmers of northeastern states to buy drones. For other farmers, financial assistance will be given upto 40 percent or maximum Rs.4 lakh.

Analysis of Background:

Technology in Agriculture: The need

- Humanity has come a long way over the millennia in how we farm and grow crops with the introduction of various technologies.
- As the world population continues to grow and land becomes scarcer, people have needed to get creative and become more efficient about how we farm,
 1. using less land to produce more crops and
 2. Increasing the productivity and yield of those farmed acres.

In Indian context

- When it specifically comes to India, our agriculture is faced with multiple challenges like high dependence on monsoon, resource intensiveness – heavy use of resources (water, inorganic fertilisers and pesticides), degradation of land and loss of soil fertility, and low per hectare yield, among others.
- Agriculture continues to employ 49 per cent of the workforce and contributes to only 16 per cent of the country's GDP.
- Improvement in agriculture would, therefore, positively impact the well-being of a very large section of the Indian population, apart from delivering food security to our country.
- Feeding over a billion Indians on limited land resources is a big challenge ---- a task that requires technological intervention on a large scale, to enable a giant leap in agricultural productivity.
- It is in this context that, AI can play a catalytic role in improving farm productivity, removing supply chain constraints and increasing market access. It can positively impact the entire agrarian value chain.

Benefits of using Drones in Agriculture

- Enhanced Production - The farmer can improve production capabilities through comprehensive irrigation planning, adequate monitoring of crop health, increased knowledge about soil health, and adaptation to environmental changes.

- Effective and Adaptive Techniques - Drone usage results in regular updates to farmers about their crops and helps develop strengthened farming techniques. They can adapt to weather conditions and allocate resources without any wastage.
- Greater safety of farmers - It is safer and more convenient for farmers to use drones to spray pesticides. It leads to less pollution and chemicals in the soil.
- Less wastage of resources - Agri-drones enables optimum usage of all resources such as fertilizer, water, seeds, and pesticides.
- 99% Accuracy rate - The drone survey helps farmers calculate the precise land size, segment the various crops, and indulge in soil mapping.
- Useful for Insurance claims - Farmers can use the data captured through drones to claim crop insurance in case of any damages. They even calculate risks/losses associated with the land while being insured.

CARBON SEQUESTRATION

In News:

On April 29, 2022, Oil India Limited signed a Memorandum of Understanding with the Digboi Forest Division of the Assam Forest Department for a project on Carbon Sequestration and Restoration of Degraded Forest Land in the Upper Dihing Reserved Forest (west block) of the Digboi Forest Division. Vasundhara, OIL's CSR project, has spearheaded the campaign.

Analysis of Background:

- As global warming worsens and humanity continues to generate greenhouse gases, the concept of investing in artificial carbon sequestration techniques is gaining traction.
- To avoid the worst consequences of climate change, the Intergovernmental Panel on Climate Change estimates that countries would need to remove between 100 billion and 1 trillion tonnes of carbon dioxide from the atmosphere this century, significantly more than can be absorbed by just growing more trees.

Carbon Sequestration:

- The long-term storage of carbon in plants, soils, geologic formations, and the ocean is known as carbon sequestration.
- Carbon sequestration refers to the storing of carbon that happens naturally and as a result of manmade actions.

Types:

1. Terrestrial Carbon Sequestration

CO₂ from the atmosphere is collected by trees and plants through photosynthesis and stored as carbon in soils and biomass in a process known as terrestrial carbon sequestration (tree trunks, branches, foliage, and roots)

2. Geologic Carbon Sequestration

CO₂ may be stored in a variety of places, including oil and gas reservoirs, unmineable coal seams, salty formations, and high-organic-content shale formations.

3. Ocean Carbon Sequestration

Large volumes of CO₂ are absorbed, released, and stored by the oceans. This may be accomplished in two ways: by increasing the productivity of ocean biological systems by iron fertilisation, or by pumping CO₂ into the deep sea.

Challenges:

- A rising number of businesses are investing in so-called engineered carbon removal methods. However, these technologies are still in their infancy and will require a major upgrade before they can be fully utilised.
- Carbon removal methods are still too costly to be widely used. Artificial carbon sequestration is expensive, energy-intensive, and unproven, with no additional advantages.
- Deep below, carbon dioxide might be stored. Reservoir design flaws, rock cracks, and tectonic processes all have the potential to release the gas held in the reservoir into the ocean or atmosphere, resulting in unforeseen consequences like ocean acidification.

What is the potential?

- In comparison to artificial sequestration, natural sequestration is a gradual process. As a result, it may be used in conjunction with natural sequestration to reach the targets necessary to combat climate change.
- As a result of stored carbon in subterranean chambers such as ancient oil reservoirs, aquifers, and coal seams, agricultural yields have improved and oil recovery has improved.
- This new and developing industry is drawing private investors and venture capitalists, who can help create jobs.

WETLANDS

In News:

In two Ramsar areas in West Bengal, East Kolkata Wetlands (EKW) and Sunderbans, a recent audit report by the Comptroller and Auditor General (CAG) revealed unlawful structures and breaches of environmental rules.

Analysis of Background:

Wetlands:

- Wetlands are locations where water plays a major role in regulating the environment and the plant and animal life that exists there.
- They happen where the water table is at or near the earth's surface, or where the land is flooded.
- "Lands transitioning between terrestrial and aquatic eco-systems where the water table is generally at or near the surface or the land is covered by shallow water," according to the definition of wetlands.

Types of wetlands

- Coastal Wetlands:
 - Coastal wetlands include shorelines, beaches, mangroves, and coral reefs, which are situated between land and open sea and are not impacted by rivers.

- Mangrove wetlands, which may be found in protected tropical coastal locations, are an excellent example.
- Shallow Lakes and Ponds:
 - Shallow lakes and ponds are wetlands with limited flow and are made up of permanent or semi-permanent bodies of water.
 - Vernal ponds, spring pools, salt lakes, and volcanic crater lakes are among them.
- Marshes:
 - These are characterised by herbaceous (non-woody) flora suited to wet soil conditions and are occasionally saturated, flooded, or ponded with water.
 - Tidal marshes and non-tidal marshes are the two types of wetlands.
 - Swamps:
 - These are dominated by trees and shrubs and are predominantly nourished by surface water supplies.
 - Swamps can be found in floodplains that are either freshwater or saltwater.
- Bogs:
 - Bogs are wet peatlands found in historic lake basins or landscape depressions. Rainfall provides almost all of the water in bogs.
 - Estuaries:
 - The area where rivers meet the sea and the water transforms from fresh to salt may be home to a diverse range of wildlife.
 - Deltas, tidal mudflats, and salt marshes are among the wetlands.

What is the importance of wetlands?

- Wetlands are extremely productive ecosystems that account for about two-thirds of the world's fish catch.
- Wetlands play a crucial part in the watershed's ecosystem. The combination of shallow water and high nutrient levels is perfect for the growth of creatures that serve as the foundation of the food web, feeding a variety of fish, amphibians, shellfish, and insects. Wetlands are extremely productive ecosystems that account for about two-thirds of the world's fish catch.

- Microbes, plants, and wildlife in wetlands play a role in world water, nitrogen, and sulphur cycles. Instead of releasing carbon dioxide into the sky, wetlands retain it in their plant communities and soil.
- Wetlands serve as natural barriers that capture and release surface water, rain, snowmelt, groundwater, and flood waters throughout time. Wetland vegetation also lowers soil erosion and slows the pace of flood flows, decreasing flood heights.
- Wetlands are essential for human and environmental survival. More than one billion people rely on them for a living, and wetlands are home to 40% of the world's biodiversity.
- Food, raw materials, genetic resources for pharmaceuticals, and electricity are all dependent on wetlands.
- They are vital in transportation, tourism, and people's cultural and spiritual well-being.
- They offer habitat for animals and plants, and many of them sustain a diverse range of life, including species and animals found nowhere else.
- Many wetlands are natural wonders that attract tourists, and many are significant to Aboriginal people.
- Wetlands also have a lot of advantages for industry. They are important to the commercial and recreational fishing sectors because they serve as nurseries for fish and other freshwater and marine species.

What are the threats to wetlands?

- Wetlands near metropolitan areas are increasingly being developed for residential, industrial, and commercial purposes. Urban wetlands are critical for the long-term sustainability of public water sources.
- Paddy fields have been planted across vast swaths of marshes. The hydrology of the adjoining wetlands was considerably affected by the construction of a vast number of reservoirs, canals, and dams to supply irrigation.
- Natural water filters are found in wetlands. They can only clean up fertilisers and pesticides from agricultural runoff; they can't clear up mercury from industrial sources or other forms of contamination.

- Increased air temperature, precipitation changes, higher storm, drought, and flood frequency, increased atmospheric carbon dioxide concentration, and sea level rise might all have an impact on wetlands.
- Material is removed from a marsh or riverbed. Dredging of streams lowers the water table in the area and dries off nearby wetlands.
- Wetlands are drained by digging canals into the earth that collect and convey water away from the area. The water table is lowered, and the wetland is dried off.
- Exotic imported plant species such as water hyacinth and salvinia pose a threat to Indian wetlands. They block up rivers and crowd out native plants.

SMART CITY REVOLUTION

In News:

The Union Minister of Housing & Urban Affairs and Petroleum & Natural Gas participated in the Smart City Resolution event in Sikkim.

Analysis of Background:

- The Union Minister of Housing & Urban Affairs and Petroleum & Natural Gas, Shri Hardeep Singh Puri has announced additional support to complete certain projects in Sikkim.
- He was addressing 'Urban Development in the North-Eastern States: Smart City Revolution', organised under the Azadi Ka Amrit Mahotsav.

About Smart Cities Mission

- The Government of India launched Smart Cities Mission (SCM) in June 2015.
- 100 Smart Cities have been selected through 4 rounds of competition from January 2016 to June 2018.
- The purpose of the Smart Cities Mission is to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to Smart outcomes.
- As per SCM Guidelines, the Government of India provided financial support to the extent of ₹ 48,000 crores over five years i.e., on an average of Rs 100 crore per city per year.

- An equal amount on a matching basis will be contributed by the State Government/Urban Local Body (ULB).
- The implementation of SCM at the city level is done by a Special Purpose Vehicle (SPV) created for the purpose.
- At the State level, Mission implementation is coordinated by the State level High Powered Steering Committee (HPSC) chaired by the Chief Secretary of the State.
- At the National level, the implementation of SCM is monitored by an Apex Committee headed by the Secretary, Ministry of Housing and Urban Affairs (MoHUA).
- The core elements of the Mission;
 - Adequate water supply
 - Assured electricity supply
 - Sanitation, including solid waste management
 - Efficient urban mobility and public transport
 - Affordable housing, especially for the poor
 - Robust IT connectivity and digitalization
 - Good governance, especially e-Governance and citizen participation
 - Sustainable environment
 - Safety and security of citizens, particularly women, children and the elderly
 - Health and education

Objectives of the Smart Cities Mission:

- Smart Cities focus on their most pressing needs and on the greatest opportunities to improve lives.
- They tap a range of approaches; digital and information technologies, urban planning best practices, public-private partnerships, and policy change to make a difference. They always put people first.
- The objective is to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and the application of 'Smart' Solutions.

- The focus is on sustainable and inclusive development and the idea is to look at compact areas and create a replicable model which will act as a lighthouse to other aspiring cities.
- The Smart Cities Mission is meant to set examples that can be replicated both within and outside the Smart City, catalysing the creation of similar Smart Cities in various regions and parts of the country.

Significance of Smart Cities Mission

- Cities accommodate nearly 31% of India's current population and contribute 63% of GDP (Census 2011).
- Urban areas are expected to house 40% of India's population and contribute 75% of India's GDP by 2030.
- This requires comprehensive development of physical, institutional, social and economic infrastructure.
- All are important in improving the quality of life and attracting people and investment, setting in motion a virtuous cycle of growth and development. The development of Smart Cities is a step in that direction.
- The Smart Cities Mission is an innovative and new initiative by the Government of India to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens.

TOPIC: SECURITY AND DEFENSE

P-81 MARITIME AIRCRAFT

In News:

Defence minister Rajnath Singh flew a sortie in the Indian Navy's P-8I long-range maritime reconnaissance and anti-submarine warfare aircraft during his visit to Mumbai.

Analysis of Background:

About P-81 Maritime Aircraft

- P-81 aircraft is India's 12th maritime surveillance and antisubmarine warfare delivered by Boeing.
- The aircraft is designed for long-range anti-submarine warfare (ASW), anti-surface warfare (ASuW), and intelligence, surveillance and reconnaissance (ISR) missions, and is a multi-mission aircraft with state-of-the-art sensors, proven weapons systems, and a globally recognised platform.
- The aircraft has two variants — the P-8I, which is manufactured for the Indian Navy, and the P-8A Poseidon, which is flown by the US Navy, the United Kingdom's Royal Air Force, the Royal Australian Air Force, and the Royal Norwegian Air Force.
- The P-8I can fly as high as 41,000 feet, and has a short transit time, which reduces the size of the "Area of Probability when searching for submarines, surface vessels or search and rescue survivors".
- It is also used for low altitude, humanitarian, and search and rescue missions.
- The aircraft has two engines, and is about 40 meters long, with a wingspan of 37.64 meters.
- The aircraft comes with one of the most advanced weapon systems in the world, and has a life of around 25 years, or 25,000 hours in the "harshest maritime flight regimes, including extended operations in icing environments".
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INTEGRATED BATTLE GROUPS

In News:

- The Indian Army is in the advanced stages of putting together Integrated Battle Groups (IBGs) by reconfiguring its combat formations.
- The Indian Army has identified the holding formation on the Western front and a strike formation on the eastern or northern borders for the IBGisation to commence.

Analysis of Background:

IBG

- The IBGs are agile, brigade-sized, and self-sufficient combat formations.
- In case of hostilities, they can swiftly strike against the enemies.
- Every IBG will be tailor-made and will be based on the three Ts -- Threat, Terrain, and Task.
- The IBGs will be self-contained fighting formations with the elements of every arm and service mixed as per the terrain and operational requirements.
- Each IBG will have a troop strength of around 5,000, bigger than a Brigade (3000-3,500) but smaller than a division (10,000-12,000).
- These will have a mix of every arm and service like Infantry, Artillery, Armoured, Engineers, Signals, Air Defence, and others.
- In the initial phase, the Army has decided to reconstitute its standing forces into 12 modernised IBGs.
- The forces reassigned and reconstituted would be smaller but swifter with greater combat thrust.

INSURGENCY IN NAGALAND

In News:

According to the report of the Ministry of Home Affairs, the National Socialist Council of Nagaland (NSCN-IM) was involved in 44% of insurgency-related IIR incidents in Nagaland in 2020.

Analysis of Background:

Key Points of the Report released by the Home Ministry

- The report highlighted that in 2020, Nagaland witnessed a 45% decline in the number of violent incidents compared to 2019, and no civilian and security forces deaths.
 - Counter-insurgency operations led to the arrest of more than 200 insurgents and the recovery of 84 weapons in the State in 2020.
 - The National Socialist Council of Nagaland (NSCN-IM) was involved in about 44% of the insurgency incidents in the State during 2020.
 - The number of kidnapping/ abduction cases declined by 33% compared to 2019.
- In 2020, insurgency-related violence declined by 42% in Arunachal Pradesh, 12% in Assam, 23% in Manipur and 45% in Nagaland compare.

Nagaland Insurgency:

- The British annexed Assam in 1826, and in 1881, the Naga Hills also became part of British India.
- The first sign of Naga opposition was seen in the formation of the Naga Club in 1918, which opposed the Simon Commission in 1929 and demanded autonomy for the area.
- In 1946, the Naga National Council (NNC) declared Nagaland an independent state on August 14, 1947.
- They were determined to establish a “sovereign Naga state” and they also conducted a “referendum” in 1951, in which “99%” population supported the demand for an “independent” Nagaland.
- They formed the underground Naga Federal Government (NFG) and the Naga Federal Army (NFA).
- The Government of India sent in the Army to crush the insurgency and, in 1958, enacted the Armed Forces (Special Powers) Act.
- The Naga Hills, a district of Assam, was upgraded to a state in 1963.
- In 1964, a Peace Mission was signed between the government and NNC to suspend the activities, but even after that the NNC continued to indulge in violence, and then Peace Mission was abandoned in 1967, and a massive counter-insurgency operation was launched.

- In 1975, a section of NNC leaders signed the Shillong Accord, under which they agreed to give up arms.
- Another group refused to accept the Shillong Accord and formed the National Socialist Council of Nagaland (NSCN) in 1980.
- With time, the NSCN became the “mother of all insurgencies” in the region.
- Their main demand is the creation of a “Greater Nagalim” that comprises “all bordering Naga-inhabited areas”, along with Nagaland.
- That included several districts of Assam, Arunachal and Manipur, as also a large tract of Myanmar.
- The map of “Greater Nagalim” has about 1,20,000 sq km, while the state of Nagaland consists of 16,527 sq km.
- The Nagaland Assembly has also advocated the ‘Greater Nagalim’ demand — “Integration of all Naga-inhabited bordering areas under one administrative umbrella”.
- In 1997, The Government of India signed a ceasefire agreement with NSCN.

Other Major Agreements of the Northeast

NLFT Tripura Agreement

- The agreement was signed on 10 August 2019 in the presence of the Home Minister.
- As per the MoU, for the overall development of the tribes of Tripura, the Government of Tripura will be provided with a Special Economic Development Package (SEDP) of Rs. 100 crores by the Government of India during a period of five years.
- Out of this amount of Rs. 100 crores, an amount of Rs. 40 crore has already been released to Tripura during the financial year 2020-21.

Bru Agreement

- A historic agreement was signed in the presence of the Home Minister on 16.01.2020 by the Government of India, Government of Tripura, and Government of Mizoram along with representatives of Bru migrants for the permanent settlement of 6959 Bru families in Tripura with a financial package of about Rs. 661 crore.

- As per the agreement, each resettled Bru family would be given financial assistance in the form of a fixed deposit of Rs.4 lakh, free ration, five thousand rupees per month for two years, housing assistance at the rate of Rs.1.5 lakh, and a land plot of 30x40 square feet.

Bodo Peace Accord

- In the presence of Home Minister Shri Amit Shah, a Memorandum of Understanding (MoU) was signed on 27.01.2020 by the Government of India, the Government of Assam, and representatives of Bodo groups to resolve the long-pending Bodo issue.
- Most of the demands of the Bodo groups have been met and the remaining demands would be met when as per the MoU, the committees constituted for this purpose would give their recommendations.
- As per the agreement, a special development package of Rs 1,500 crore (750 crores by the Central Government and 750 crores by the Assam government) will be provided over a period of three years for the all-around development of the Bodo region in Assam.

Karbi Anglong Agreement

- To end the decades-old crisis in the Karbi Anglong region of Assam, a Memorandum of Understanding (MoU) was signed on 04.09.2021 in the presence of the Home Minister between the Government of India, the Government of Assam and representatives of Karbi groups.
- As a result of this historic agreement, more than 1000 armed cadres renounced violence and joined the mainstream of society.
- As per the agreement, a special development package of Rs 1,000 crore will be given over five years by the central government and the Assam government to take up special development projects in the Karbi areas.
- This agreement will ensure the protection of the culture, identity, language, etc. of the Karbi people and the all-round development of the region.

Our Initiative For Current Affair Coverage:

DAILY NEWS HEADLINES (DNH): Highlights Important topics from *The Hindu Newspaper*.

DAILY NEWS ANALYSIS (DNA): - Detailed Analysis of current affair from *The Hindu Newspaper and Pib*.

MONTHLY COMPILATION MAGAZINE – *Compilation of Daily News Analysis* for Revision.

DAILY PRACTICE QUESTION (DPQ): *Questions are framing from Daily Newspaper as well as Previous Year Questions.*



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