



DHEERAN IAS ACADEMY™

(Specialized Institute for UPSC, TNPSC & Banking)

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CURRENT AFFAIR COMPILATION MARCH - 2022

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SYLLABUS –UPSC EXAMINATION

GENERAL STUDIES - 1

Art and Culture

Syllabus:

- Indian culture will cover the salient aspects of Art Forms, literature and Architecture from ancient to modern times.

History

Syllabus:

- Modern Indian history from about the middle of the eighteenth century until the present significant events, personalities, issues.
- The Freedom Struggle — its various stages and important contributors/contributions from different parts of the country.
- Post-independence consolidation and reorganization within the country.
- History of the world will include events from 18th century such as industrial revolution, world wars, redrawal of national boundaries, colonization, decolonization, political philosophies like communism, capitalism, socialism etc.— their forms and effect on the society.

Geography

Syllabus:

- Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).
- Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone,. Geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

GENERAL STUDIES - 2

Polity

Syllabus:

- Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.
- Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein. Separation of powers between various organs dispute redressal mechanisms and institutions.
- Comparison of the Indian constitutional scheme with that of other countries. Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.
- Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.
- Salient features of the Representation of People’s Act.
- Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
- Statutory, regulatory and various quasi-judicial bodies.
- Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
- Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

Governance

Syllabus:

- Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.
- Role of civil services in a democracy.

Schemes

Syllabus:

- Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

Society and Social Issues.

Syllabus:

- Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.
- Effects of globalization on Indian society.
- Social empowerment, communalism, regionalism & secularism.
- Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
- Issues relating to poverty and hunger.

International Relation and organization

Syllabus:

- India and its neighborhood- relations.
- Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
- Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.
- Important International institutions, agencies and fora- their structure, mandate.

GENERAL STUDIES – 3

Economy

Syllabus:

- Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.
- Inclusive growth and issues arising from it.
- Government Budgeting.

Agriculture

Syllabus:

- Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.
- Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.
- Food processing and related industries in India- scope' and significance, location, upstream and downstream requirements, supply chain management.
- Land reforms in India.

Infrastructure

Syllabus:

- Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
- Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
- Investment models.

Science and technology

Syllabus:

- Science and Technology- developments and their applications and effects in everyday life.
- Achievements of Indians in science & technology; indigenization of technology and developing new technology.
- Awareness in the fields of IT, Space, Computers, robotics, nano technology, bio-technology and issues relating to intellectual property rights.

Environment

Syllabus:

- Conservation, environmental pollution and degradation, environmental impact assessment.
- Disaster and disaster management.

Defense and security

Syllabus:

- Linkages between development and spread of extremism.
- Role of external state and non-state actors in creating challenges to internal security.
- Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention.
- Security challenges and their management in border areas - linkages of organized crime with terrorism.
- Various Security forces and agencies and their mandate.

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TOPIC: ART AND CULTURE

PERINI DANCE

In News:

A Perini dance performance by artistes in Hyderabad has left the audience awestruck.

Analysis of Background:

Perini Dance

- Perini Sivathandavam is an ancient dance form, from Telangana, which has been revived in recent times.
- It originated and prospered in Telangana, during the Kakatiya dynasty.
- It is performed in honour of Lord Siva, the hindu god of destruction and it is believed that in ancient times this was performed before the soldiers set to war.
- One can find evidence of this dance in the sculptures near Garbha Gudi (Sanctum Sanctorum) of the Ramappa Temple at Warangal.

Performance details

- The Perini siva Thandavam is a dance form usually performed by males.
- It is called 'Dance of Warriors'. Warriors before leaving to the battlefield enact this dance before the idol of Lord Śiva (Siva).
- The dance form, Perini, reached its pinnacle during the rule of the 'Kakatiyas' who established their dynasty at Warangal and ruled for almost two centuries.
- It is believed that this dance form invokes 'Prerana' (inspiration) and is dedicated to supreme dancer, Lord Siva.

BUDDHIST MANUSCRIPTS

In News:

Hundreds of original Buddhist manuscripts from Nalanda and Vikramshila to be translated and published.

Analysis of Background:

- The Bihar State Government has signed an MoU with CIHTS (Central Institute of Higher Tibetan Studies) for the translation (in Hindi) and publication (in 5 years) of

original Buddhist manuscripts that were saved from being burnt in the 12th and 13th centuries by Bhaktiyar Khilji's Army.

- The manuscripts were brought back to India from Tibet by traveller, freedom fighter and monk Rahul Sankrityayan.
- The manuscripts were written in Sanskrit by scholars of the two universities between 7th and 12th centuries AD.
- Translation and publication would be vital for those doing research on Vajrayana or Tibetan Buddhism, different Tantric practices and Buddhist philosophy.

About Nalanda:

- Nalanda, the ruins of one of the world's most prestigious seats of learning, is located 95 kilometres from Patna, the capital of Bihar, and 110 km from Bodh Gaya, the site of the Buddha's enlightenment.
- Declared a World Heritage Site in 2016, Nalanda is seen as the world's most ancient university, flourishing much before Europe's oldest university, Bologna, came into being in the 11th-12th century.
- Contemporary sources, however, describe the site as a mahavihara, a great monastery.
- Nalanda, therefore, functioned as a premier monastic-cum-scholastic establishment in ancient and early medieval India.
- Today, one can see there the remains of temples, monastic dwellings, votive structures and art works in stucco, bronze and stone dating from the 5th century C.E. to the 12th century C.E.

Vikramshila:

- Located in Bhagalpur district in Bihar, it was one of the three most important Buddhist monasteries in India during the Pala Empire, along with Nalanda and Odantapuri.
- It was established by the Pala Emperor Dhamapala due to the decline in the quality of scholarship at Nalanda.
- It was a centre for Vajrayana Buddhism.
- It is mostly known from Tibetan sources, particularly the works of Taranatha, a 16th–17th century Tibetan monk historian.
- Subjects like philosophy, grammar, metaphysics, Indian logic etc. were taught here, but the most important branch of learning was Buddhist Tantra.

- It produced eminent scholars who were often invited by foreign countries to spread Buddhist learning, culture and religion. The most distinguished and eminent among all was AtisaDipankara(a notable abbot), a founder of the Sarmatraditions of Tibetan Buddhism.

UNESCO 'CITY OF LITERATURE'

In News:

Recently ,Kozhikode was proposed by the Kerala Institute of Local Administration (KILA) to be branded as a 'City of Literature' with the help of UNESCO.

Analysis of Background:

- It is among the six places that the KILA plans to develop as 'Creative Cities'.
 - Thiruvananthapuram is vying for the title 'City of Peace', Kollam 'City of Biodiversity', Kochi 'City of Design', Thrissur 'City of Learning', and Kannur 'City of Craft and Folk Arts'.
- The branding would help Kozhikode get a global reach. Innovative literary events could be organised here showcasing writers from foreign countries.
- The credentials for this are being readied now so that the proposal can be submitted in 2023.
- The Kozhikode Corporation has already started preliminary steps for the purpose.
- The civic body is preparing the proposal with the help of the University of Prague in the Czech Republic.
 - Prague got the tag in 2014.

About City of Literature:

- A city designated as Creative City of Literature must have a sufficient number of institutions taking care of the high level of its literary life and promoting literature.
- Literature is supposed to play an essential part in the city's life and be given significant support.
- The city should have the ability and experience to organise different kinds of literary events, and an appropriate level of literary education should be provided along with quality, quantity and diversity of literary activities.

TOPIC: HISTORY

VISVA-BHARATI UNIVERSITY

In News:

The stalemate continues in Visva-Bharati University as students demand the reopening of hostels and conducting of online examinations.

Analysis of Background:

Visva-Bharati

- Visva-Bharati is a central research university and an Institution of National Importance located in Shantiniketan, West Bengal, India.
- It was founded by Rabindranath Tagore who called it Visva-Bharati, which means the communion of the world with India.
- Until independence, it was a college.
- Soon after independence, the institution was given the status of a central university in 1951 by an act of the Parliament.

Its establishment

- The origins of the institution date back to 1863 when Debendranath Tagore was given a tract of land by the zamindar of Raipur, zamindar of Kirnahar.
- He set up an ashram at the spot that has now come to be called chatim tala at the heart of the town.
- The ashram was initially called Brahmacharya Ashram, which was later renamed Brahmacharya Vidyalaya.
- It was established with a view to encouraging people from all walks of life to come to the spot and meditate.
- In 1901 his youngest son Rabindranath Tagore established a co-educational school inside the premises of the ashram.
- From 1901 onwards, Tagore used the ashram to organize the Hindu Mela, which soon became a center of nationalist activity.

AGNI KANDAKARNAN THEYYAM

In News:

Ritual dance Agni Kandakarnan Theyyam performing at the Kaliyattam festival has begun in Kannur, Kerala.

Analysis of Background:

What is Theyyam?

- Theyyam is a popular thousand-year-old ritual form of dance worship in Kerala and Karnataka, India.
- The people of these districts consider Theyyam itself as a channel to a god and they thus seek blessings from Theyyam.
- There are about 456 types of Theyyam.
- Theyyam is performed by males, except the Devakoothu theyyam; the Devakoothu is the only Theyyam ritual performed by women.
- It is performed only in the Thekkumbad Kulom temple.

Major types of performances

- **Vishnumoorthi:** It is the most popular Vaishnava Theyyam. This theyyam narrates and performs the story of Hiranyakashipu's death by the Lord Vishnu in his avatar of Narasimham.
- **Sree Muthappan Theyyam:** It consists of two divine figures is considered as the personification of two divine figures— the Thiruvappana or Valiya Muttapan (Vishnu) and the Vellatom or Cheriya Muttapan (Shiva).
- **Padikutti Amma:** It is believed to be the mother of Muthapan. The Padikutti Amma Theyyam is performed in the Palaprath Temple in Kodallur near Parassini Kadavu in the Meenam (a Malayalam month)

TOPIC: GEOGRAPHY

MARIUPOL

In News:

- Ukrainian President Volodymyr Zelensky has condemned Russia's constant bombing of Mariupol, calling it "a terror that will be remembered for centuries to come."

Analysis of Background:

About

- Mariupol city in Ukraine is located in the south of the Donetsk Oblast, on the coast of Sea of Azov and at the mouth of Kalmius River in the Pryazovia region.
- It is located in an area of the Azov Lowland that is an extension of the Ukrainian Black Sea Lowland.
- To the east of Mariupol is the Khomutov Steppe, located on the border with Russia.
- The city is mainly built on land that is made of solonetzic (sodium enriched) chernozem, with a significant amount of underground subsoil water that frequently leads to landslides.
- Mariupol has a humid continental climate (Köppen climate classification Dfa) with warm summers and cold winters.



SRI LANKA

In News:

Sri Lanka's economic crisis is aggravating rapidly, putting citizens through enormous hardship.

Analysis of Background:

- Sri Lanka, formerly Ceylon, island country lying in the Indian Ocean. It is located between latitudes 5°55' and 9°51' N and longitudes 79°41' and 81°53' E
- An island country in South Asia it lies in the Indian Ocean, southwest of the Bay of Bengal, and southeast of the Arabian Sea; it is separated from the Indian subcontinent by the Gulf of Mannar and the Palk Strait.
- Sri Lanka shares a maritime border with India and the Maldives.
- The island consists mostly of flat to rolling coastal plains, with mountains rising only in the south-central part.
- Sri Lanka has 103 rivers. The longest of these is the Mahaweli River.
- Sri Lanka's mangrove ecosystem spans over 7,000 hectares and played a vital role in buffering the force of the waves in the 2004 Indian Ocean tsunami.
- The island is rich in minerals such as ilmenite, feldspar, graphite, silica, kaolin, mica and thorium.
- The climate is tropical and warm, because of moderating effects of ocean winds.



SOLOMON ISLANDS

In News:

The Solomon Islands has defended plans to sign a security deal with Beijing that could allow China to boost its military presence in the South Pacific island nation. This has left Australia very concerned.

Analysis of Background:

Solomon Islands

- Solomon Islands is a sovereign country consisting of six major islands and over 900 smaller islands in Oceania, to the east of Papua New Guinea and northwest of Vanuatu.
- It has a land area of 28,400 square kilometres and a population of 652,858.[10] Its capital, Honiara, is located on the largest island, Guadalcanal.
- The country takes its name from the Solomon Islands archipelago, which is a collection of Melanesian islands.
- It also includes the North Solomon Islands (a part of Papua New Guinea), but excludes outlying islands, such as the Santa Cruz Islands and Rennell and Bellona.
- The islands have been settled since at least some time between 30,000 and 28,800 BCE, with later waves of migrants, notably the Lapita people, mixing and producing the modern indigenous Solomon Islanders population.



INTER-STATE RIVER WATER DISPUTE

In News:

From Padayatras to court battles, Karnataka and Tamil Nadu water-sharing disputes intensifies.

Analysis of Background:

Details:

- After the century-old Cauvery water-sharing dispute was settled by a tribunal, now the Mekedatu Project became the cause of conflict between Karnataka and Tamil Nadu.
- The opposition political party in Karnataka launched a 100-km-long Padayatra (foot march) demanding the implementation of the Mekedatu project.

Mekedatu Project:

- Karnataka plans to construct a storage dam to capture excess water that flows out over the river Cauvery.
- The project will actually come up at the convergence of Cauvery and Arkavathi rivers, about 90 km southwest of Bangalore and 4 km from the Tamil Nadu border.
- The project was previously estimated to cost Rs 5,000 crore, the cost has now increased to Rs 9,000 crore.
- The State Government of Karnataka believes that the project would resolve their drinking water shortage and also generate hydroelectricity to meet the power needs of the state.

Concern over Mekedatu Project:

- The project requires a total of 5,252 hectares of land. Of this, about 4,996 hectares will be submerged.
- Of the total land required, 3,181 hectares fall in the Cauvery Wildlife Sanctuary, 1,869 hectares in a reserve forest.

- The State Government of Tamil Nadu fears that Karnataka will hoard water in the dam, thereby affecting their share of the Cauvery water. The Tamil Nadu government has argued that as per the Inter-State River Water Disputes Act, Karnataka cannot build the dam without the consent of the lower riparian state, which is Tamil Nadu in this case.
- Environmental activists have questioned the environmental price of the project, as the large portion of Cauvery wildlife sanctuary area will be submerged by the dam.
- The sanctuary is also home to many endangered wildlife species. Activists fear that the loss of this space will only lead to more man-animal conflict.

What's Karnataka's argument?

- The state government of Karnataka has maintained that it is within its rights to construct the dam as long as it makes sure that Tamil Nadu gets its annual share of water as prescribed by the Cauvery Water Disputes Tribunal.

Cauvery River:

- The Kaveri (also known as Cauvery) is an Indian river flowing through the states of Karnataka and Tamil Nadu. In ancient times, it was also called 'Ponni' in Tamil literature.
- The Kaveri River rises at Talakaveri in the Brahmagiri range in the Western Ghats, Karnataka.
- Some of its tributaries are Arkavathi, Hemavathi, Lakshmana Theertha, Shimsa, Kabini and Harangi.
- It is the 3rd largest river after Godavari and Krishna in southern India and the largest in the State of Tamil Nadu, it bisects the state into North and South.
- The Kaveri is a sacred river to the people of South India and is worshiped as the Goddess Kaveriamma.
- The river basin covers; Karnataka, Tamil Nadu, Kerala, and Puducherry.
- It forms Shivanasamudra Falls that descend about 100 meters (330 ft).
- The river is the source for an extensive irrigation system and for hydroelectric power.

Cauvery River Water Dispute:

- The sharing of waters of the Kaveri River has been the source of a serious conflict between Tamil Nadu and Karnataka.
- The History of this conflict rests in two agreements in 1892 and 1924 between the Madras Presidency and Kingdom of Mysore.
- Karnataka states that the pre-independence agreements are invalid and are angled heavily in the favour of the Madras Presidency, and has demanded a renegotiated settlement based on "equitable sharing of the waters".
- Tamil Nadu, on the other hand, says that it has already developed almost 3,000,000 acres of land and as a result has come to depend very heavily on the existing pattern of usage. Any change in this pattern will adversely affect the livelihood of millions of farmers in the state.
- The Government of India constituted a tribunal in 1990 to look into the matter. After hearing arguments of all the parties involved for the next 16 years, the tribunal delivered its final verdict in 2007.
- In its verdict, the tribunal allocated 419 TMC of water annually to Tamil Nadu and 282 TMC to Karnataka; 30 TMC of Cauvery river water to Kerala and 7 TMC to Puducherry.
- All four have decided to file review petitions seeking clarifications and possible renegotiation of the order.
- In response to the Special Leave Petition (SLP) lodged by Tamil Nadu, the Supreme Court in 2013 issued an interim direction to the Government of India to establish an Interim Supervisory Committee to implement the Cauvery tribunal order till the constitution of "Cauvery Management Board" as stated in the tribunal order.
- In 2018, the Cauvery Water Management Authority (CWMA) was created by the Union Government.

About Inter-State Water Disputes:

- Article 262 of the Indian Constitution provides for the adjudication of interstate water disputes. It makes two provisions:

- Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley.
- Parliament may also provide that neither the Supreme Court nor any other court is to exercise jurisdiction in respect of any such dispute or complaint.
- The Parliament has enacted two laws; the River Boards Act (1956) and the Inter-State Water Disputes Act (1956).
- The River Boards Act provides for the establishment of river boards for the regulation and development of inter-state river and river valleys.
- A river board is established by the Central government on the request of the state governments concerned to advise them.
- The Inter-State Water Disputes Act empowers the Central government to set up a tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.
- The decision of the tribunal would be final and binding on the parties to the dispute.
- Neither the Supreme Court nor any other court is to have jurisdiction in respect of any water dispute which may be referred to such a tribunal under this Act.

About Interstate River Water Governance in India:

- Interstate River Water Disputes are a continuing challenge to federal water governance in India.
- In India, legislative powers concerning water were distributed between the Center and the states to ensure optimum utilization while balancing the interests of the states.
- Schedule 7 of the Constitution distinguishes between the use of water within a state and the purpose of regulating interstate waters. It gives the Union Parliament the power to formulate laws and mechanisms for regulating interstate rivers (Union list), while the states retain autonomy regarding water utilization for purposes such as water supply, irrigation and canals, drainage and embankments, water storage and water power (State List).

- The States Reorganization Act 1956 resulted in 14 states and 6 union territories. Thereafter, the boundaries of Indian states have continued to evolve. The changing borders complicate the existing jurisdictional and resource-sharing agreements.

ANTI-CONVERSION BILL

In News:

The State government of Haryana introduced an anti-conversion Bill.

Analysis of Background:

- The State government of Haryana introduced the Haryana Prevention of Unlawful Conversion of Religious Bill, 2022.
- The bill is introduced to create a deterrent for people involved in forced religious conversion activities.
- The Bill seeks to “prohibit religious conversions which are effected through misrepresentation, force, undue influence, coercion, allurement or by any fraudulent means or by marriage or for marriage by making it an offense”.
- According to the draft Bill, the burden of proof shall be on the accused.

Law making process at State level:

- **Step 1** - The State cabinet approves the draft of the Bill.
- **Step 2** - The State government introduces the bill in the State assembly or Vidhan Sabha.
- **Step 3** - Discussion on the bill in the state assembly, members give their suggestions, and at the end voting is done.
- **Step 4** - Once a bill is passed by the state assembly, it is sent to the Governor for his final assent. Once the Governor gives his assent, it shall be enacted as law and implemented across the state.

Arguments in Favor of anti-conversion bill:

- These laws only ban and punish forceful religious conversion.
- Fundamental rights under Article 25 ‘Right to propagate a religion’ did not extend to forced conversions.
- There is no fundamental right to convert another person to one's own religion.

Arguments against anti-conversion bill:

- According to some activists “Such laws are used to target religious minorities and interfaith couples”.
- These laws would be used to target even voluntary conversions, and curb the fundamental rights “Freedom of conscience” under Article 25.
- These Acts do not satisfy the test of reasonableness and fairness, and also go against the Fundamental rights under Article 14 and Article 21” of the Constitution.

LABOUR MINISTRY LAUNCHES ‘DONATE A PENSION’ SCHEME

In News:

The Union Labour and Employment Ministry has launched the “donate a pension” scheme.

Analysis of Background:

‘Donate a Pension’ Scheme

- This scheme allows any citizen to pay the premium amount on behalf of an unorganized worker under the Pradhan Mantri Shram Yogi Maan-Dhan
- Maan-Dhan scheme is a government scheme meant for old age protection and social security of unorganized workers.

Eligibility criteria and benefits

- The scheme was launched in 2019, allows unorganized sector workers between 18 and 40 years who earn up to ₹15,000 a month to enroll by paying a premium amount between ₹55 and ₹200, depending on the age, that would be matched by the government.
- On reaching the age of 60, the beneficiaries would get a ₹3,000 monthly pension.

Features of the scheme

- The scheme allows a citizen to “donate the premium contribution of their immediate support staff such as domestic workers, drivers, helpers, caregivers, nurses in their household or establishment.
- The donor can pay the contribution for a minimum of one year, with the amount ranging from ₹660 to ₹2,400 a year depending on the age of the beneficiary, by paying through maandhan.in or visiting a Common Service Centre.

GENERAL CONSENT FOR CBI

In News:

Nine states including Meghalaya have withdrawn general consent to the CBI, which means the agency must seek the permission of the state govt before it can open a fresh case in the state.

Analysis of Background:

What is general consent?

- The CBI is governed by The Delhi Special Police Establishment (DSPE) Act, 1946, and it must mandatorily obtain the consent of the state government concerned before beginning to investigate a crime in a state under Section 6 of The DSPE Act.
- The CBI's position is in this respect different from that of the National Investigation Agency (NIA), which is governed by The NIA Act, 2008, and has jurisdiction across the country.
- The consent of the state government to CBI can be either case-specific or general.
- General consent is normally given by states to help the CBI in seamless investigation of cases of corruption against central government employees in their states. This is consent by default, in the absence of which the CBI would have to apply to the state government in every case, and before taking even small actions.
- CBI can suo-moto take up investigation of offences only in the Union Territories.

Which states have withdrawn consent, and why?

- Traditionally, almost all states have given CBI general consent. However, since 2015 onward, several states have begun to act differently.

- Nine states that have withdrawn consent to the CBI:
 - Meghalaya
 - Maharashtra,
 - Punjab,
 - Rajasthan,
 - West Bengal,
 - Jharkhand,
 - Chhattisgarh,
 - Kerala, and
 - Mizoram

What does the withdrawal of general consent mean?

- It means the CBI will not be able to register any fresh case involving officials of the central government or a private person in the state without the consent of the state government.
- CBI officers will lose all powers of a police officer as soon as they enter the state unless the state government has allowed them.
- In *Vinay Mishra vs the CBI*, the Calcutta HC ruled that withdrawal of consent would apply in cases where exclusively employees of the state government were involved.

About CBI:

- Central Bureau of Investigation (CBI) is the premier investigating police agency in India.
- In 1963, the CBI was established by the Government of India with a view to investigate serious crimes related to defence of India, corruption in high places, serious fraud, cheating and embezzlement and social crime, particularly of hoarding, black-marketing and profiteering in essential commodities, having all-India and inter-state ramifications.
- CBI derives power to investigate from the Delhi Special Police Establishment Act, 1946.

- It functions under the superintendence of the Department of Personnel, Ministry of Personnel, Pension & Public Grievances, Government of India, which falls under the prime minister's office.
- However for investigations of offences under the Prevention of Corruption Act, its superintendence vests with the Central Vigilance Commission.
- It is also the nodal police agency in India which coordinates investigation on behalf of Interpol Member countries.

WEARING HIJAB IS NOT ESSENTIAL PART OF RELIGION: KARNATAKA HC

In News:

The Karnataka High Court upheld the ban on the wearing of hijab (head scarf) by students in schools and colleges in the State.

Analysis of Background:

- The judgment was delivered by a three-judge bench, while rejecting all the petitions filed by nine Muslim girl students of two government pre-university colleges in Udupi district.
- It held that wearing the hijab is not an essential religious practice in Islam and is not, therefore, protected under by the right to freedom of religion guaranteed by Article 25 of the Constitution.
- The court said it was a reasonable restriction that was constitutionally permissible.
- The Bench also upheld the legality of the order prescribing guidelines for uniforms in schools and pre-university colleges under the provisions of the Karnataka Education Act, 1983.
- The court stated that if hijab is permitted, the school uniform will no longer be a uniform.

Amna Bint Basheer v Central Board of Secondary Education (2016),

- The Kerala HC examined the issue more closely. Justice P B Suresh Kumar, who allowed the plea by the student, held that the practice of wearing a hijab constitutes an essential religious practice but did not quash the CBSE rule.
- The court once again allowed for the "additional measures" and safeguards put

in place the previous year.

- But both these cases involve restrictions placed on the freedom of religion for a specific purpose — to ensure a fair examination process — and the CBSE had cited a resource crunch to check every candidate if they allowed autonomy in choosing their dress.

Fathima Tasneem v State of Kerala (2018)

- A single Bench of the Kerala HC held that collective rights of an institution would be given primacy over individual rights of the petitioner.
- The case involved two girls, aged 12 and 8, represented by their father who wanted his daughters to wear the headscarf as well as a full-sleeved shirt.
- The school that refused to allow the headscarf is owned and managed by the Congregation of the Carmelites of Mary Immaculate (CMI) under CMI St Joseph Province.
- The father appealed before a division Bench of the High Court. The division Bench headed by Justice Vinod Chandran dismissed the appeals as it was “submitted that the appellants-petitioners are not now attending the School and are no more in the rolls of the respondent-School.

GOVERNMENT SEEKS LAW ON RIGHTS OF FOREIGNERS

In News:

The Union government has urged the Supreme Court to help lay down a law with a “long-lasting” implication for the country on the subject of Foreigners’ Right to approach local courts for relief after violating their visa conditions.

Analysis of Background:

Citizens vs. Foreigners Rights

Fundamental Rights available to both Citizens and Foreigners (except enemy aliens)

- **Article 14** – Equality before the

Fundamental Rights Available Only to Citizens of India

- **Article 15** – Prohibition of

- law and equal protection of laws
- **Article 20** – Protection in respect of conviction for offences
 - **Article 21** – Protection of life and personal liberty
 - **Article 21A** – Right to elementary education
 - **Article 22** – Protection against arrest and detention in certain cases
 - **Article 23** – Prohibition of traffic in human beings and forced labour
 - **Article 24** – Prohibition of employment of children in factories etc
 - **Article 25** – Freedom of conscience and free profession, practice and propagation of religion
 - **Article 26** – Freedom to manage religious affairs
 - **Article 27** – Freedom from payment of taxes for promotion of any religion
 - **Article 28** – Freedom from attending religious instruction or worship in certain educational institutions
- discrimination on grounds of religion, race, caste, sex or place of birth
- **Article 16** – Equality of opportunity in matters of public employment
 - **Article 19** – Protection of six rights related to freedom – (a) of speech and expression; (b) to assemble peaceably and without arms; (c) to form associations or unions; (d) to move freely throughout the territory of India; (e) to reside and settle in any part of the territory of India; and (f) to practice any profession, or to carry on any occupation, trade or business
 - **Article 29** – Protection of language, script and culture of minorities
 - **Article 30** – Right of minorities to establish and administer educational institutions

ARTICLE 355 OF INDIAN CONSTITUTION

In News:

Considering the law and order situation in West Bengal, some politicians demanded the invoking of Article 355 to ensure the State is governed as per the provisions of the

Constitution.

Analysis of Background:

Article 355:

“It shall be the duty of the Union to protect every State against external aggression and internal disturbance and to ensure that the Government of every State is carried on in accordance with the provisions of this Constitution.”

Cases for its invocation

- This article thus comes handy when there are communal violence incidents. Over the period, this article has gained a different texture.
- We know that the “public order” and “police” are state subject and states have exclusive power to legislate on these matters.
- These subjects were entrusted to states because states would be in better position to handle any law and order problem.
- Management of Police by states was also seen as administratively convenient and efficient.
- However, there might be some circumstances where states are unable to maintain public order and protect people.
- In such situation, centre can invoke article 355 and take measures such as taking law and order of state under its own hand, deployment of military etc.

SC BACKS CENTRE'S OROP SCHEME

In News:

The Supreme Court has upheld the Centre's one rank, one pension (OROP) scheme for the armed forces.

Analysis of Background:

OROP Policy:

- OROP means the same pension, for the same rank, for the same length of service, irrespective of the date of retirement.
- The concept was provoked by the then decision by Indira Gandhi-led government, in 1973, two years after the historic victory in the 1971 Bangladesh war.

- To explain this system, let us take an example. An officer who has been in service for 15 years (from 1985 to 2000), and retired in 2000 would get the same pension as an officer who retired in 2010 and was in service from 1995 to 2010 (15 years).
- Before this system, the prevailing system for calculating the personnel's pension was based on the last salary drawn.
- Here, the length of the service did not matter and what was taken into consideration was the last salary received by the personnel.
- The problem here was that a lieutenant general who retired in 1995 would be receiving a pension that is almost 10% lower than a colonel who retired after 2006, even if they had the same length of service.
- To take another example, a jawan who retired in 1995 would get almost 80% less pension than his counterpart who retired after 2006.
- The demand for OROP by ex-servicemen was to get rid of this disparity in pensions.
- Even though this demand of the armed forces retired personnel has been in the picture for many decades, the topic has gained traction among the mainstream owing to the political parties taking it up in their election manifestos.

Arguments in favour of OROP:

- With every pay commission, the difference between the pensions of present and past pensioners has grown wide. Veterans argue this is an issue of justice, equity, honour and national security.
- A lower pay status as compared to their civilian counterparts leads to the military personnel having lower morale. This will also affect the serving officers and soldiers.
- Armed forces personnel typically have shorter careers since about 80% of the soldiers compulsorily retire between the ages of 35 and 37. And, about 12% of soldiers retire between 40 and 54 years. This means they retire at far younger ages when compared to the usual 60 years in case of civilians. Therefore, adequate support is required for military personnel to sustain a dignified life.
- OROP has to be seen in the light of making the armed forces an attractive choice of career for young people. This scheme will go a long way in preventing young people from being lured into private enterprises and other civilian government jobs.

Arguments against OROP

- The implementation of this scheme will entail a huge financial burden on the exchequer. The annual financial burden is expected to be between 8000 to 10000 crore. And, this amount will increase with every revision of the salaries.
- Some argue that the comparison with civilians is not correct as the armed forces receive many other allowances that are not given to civilians. They get dedicated army schools, colleges, hospitals, subsidised food and beverages, quotas for children in universities and schools, etc. the equivalents of which are not accorded to civilians anywhere.
- Similar demands can also be made by the other paramilitary forces like the CAPF, Assam Rifles, SSB, etc. The police forces have also started making similar demands as even their conditions of service are often tough.
- The implementation of this scheme can also be an administrative challenge due to the lack of records going back decades.

E-Visa

About E-Visa:

- The e-visa system is an innovation introduced by the government in 2014. The facility was expanded in 2017-2018.
- The process has its roots in the 2010 Tourist Visa on Arrival (TVOA) scheme for Japan, Singapore, Finland, Luxembourg and New Zealand.
- The government merged the TVOA with Electronic Travel Authorisation, thereby creating the e-visa.
- An e-visa also called Electronic Visa is provided in five categories—tourist, business, conference, medical, and medical attendant.

Process:

- Under the arrangement, a foreigner can apply online four days prior to travel.
- After the details are verified, an electronic travel authorisation (ETA) is generated, which has to be presented at the immigration check post on arrival.
- Entry through e-visas is allowed only at 28 designated international airports and 5 major seaports in India.
- The Ministry of Home Affairs is the nodal ministry that issues visas to foreigners.

- The facility is not available for the citizens of Pakistan and they are expected to apply for regular visas from the Indian High Commission in Islamabad.
- E-visas are not valid for foreign diplomats which are dealt separately.

PADMA AWARDS

In News:

President Ram Nath Kovind conferred Padma awards 2022 at a civil investiture ceremony at Rashtrapati Bhavan.

Analysis of Background:

About Padma Award

- The Padma Awards, which were instituted in the year 1954, are one of the highest civilian honors of India, announced annually on the eve of Republic Day.
- The Awards are given in three categories:
 - 'Padma Vibhushan' is awarded for exceptional and distinguished service.
 - 'Padma Bhushan' for distinguished service of high order.
 - 'Padma Shri' for distinguished service in any field.
- The award seeks to recognize achievements in all fields of activities or disciplines where an element of public service is involved.
- The Padma Awards are conferred on the recommendations made by the Padma Awards Committee, which is constituted by the Prime Minister every year.
- The nomination process is open to the public. Even self-nomination can be made.
- All persons without distinction of race, occupation, position or sex are eligible for these awards. However, Government servants including those working with PSUs, except doctors and scientists, are not eligible for these Awards.
- The award is normally not conferred posthumously. However, in highly deserving cases, the Government could consider giving an award posthumously.
- The awards are presented by the President of India usually in the month of March/April every year where the awardees are presented a Sanad (certificate) signed by the President and a medallion.

- The recipients are also given a small replica of the medallion, which they can wear during any ceremonial/State functions etc., if the awardees so desire.
- The total number of awards to be given in a year (excluding posthumous awards and to NRI/foreigners/OCIs) should not be more than 120.
- The award does not amount to a title and cannot be used as a suffix or prefix to the awardees' name.

Important Personalities in the list of Padma Award 2022

- **Padma Vibhushan**
 - Kalyan Singh, former chief minister of Uttar Pradesh (posthumous)
 - General Bipin Rawat, India's first chief of defense staff (posthumous)
- **Padma Bhushan**
 - Congress leader Ghulam Nabi Azad
 - Covexin maker Bharat Biotech's chairman Krishna Ella and his co-founder wife Suchitra Ella, Serum Institute of India (SII) managing director Cyrus Poonawalla
- **Padma Shri**
 - Olympic gold medallist Neeraj Chopra
 - Olympians Pramod Bhagat and Vandana Kataria
 - Singer Sonu Nigam

NATIONAL COMMISSION FOR SCHEDULED TRIBES

In News:

The National Commission for Scheduled Tribes has been dysfunctional for the last four years and has not delivered a single report to Parliament, a parliamentary committee has said in a recent report.

Analysis of Background:

National Commission for Scheduled Tribes (NCST)

- The National Commission for Scheduled Tribes (NCST) was established by amending Article 338 and inserting a new Article 338A in the Constitution through the Constitution (89th Amendment) Act, 2003.
- By this amendment, the erstwhile National Commission for Scheduled Castes and Scheduled Tribes was replaced by two separate Commissions namely:
 - The National Commission for Scheduled Castes (NCSC)
 - The National Commission for Scheduled Tribes (NCST)
- **Composition:**
 - The term of office of Chairperson, Vice-Chairperson and each member is three years from the date of assumption of charge.
 - The Chairperson has been given the rank of Union Cabinet Minister and the Vice-Chairperson that of a Minister of State and other Members have the ranks of a Secretary to the Government of India.
 - They are appointed by the President by warrant under his hand and seal.
 - At least one member should be a woman.
 - The Chairperson, the Vice-Chairperson and the other Members hold office for a term of 3 years.
 - The members are not eligible for appointments for more than two terms.
- **Duties and Functions of the NCST:**
 - To investigate & monitor matters relating to Safeguards provided for STs under the Constitution or under other laws or under Govt. Order, to evaluate the working of such Safeguards.
 - To inquire into specific complaints relating to Rights & Safeguards of STs;
 - To participate and advise in the Planning Process relating to Socio-economic development of STs, and to evaluate the progress of their development under the Union and any State.
 - To submit the report to the President annually and at such other times as the Commission may deem fit, upon/ working of Safeguards, Measures required for effective implementation of Programmers/ Schemes relating to Welfare and Socio-economic development of STs.
 - To discharge such other functions in relation to STs as the President may, subject to the provisions of any law made by Parliament, by rule specify.

- **Powers**

- The Commission is vested with all the **powers of a civil court** while investigating any matter on the inquiry into any complaint relating to deprivation of rights and safeguards for Scheduled Tribes.

Issues with the National Commission for Scheduled Tribes

- **Lack of applicants:** The Ministry claimed that the recruitment in the Commission was constrained because of lack of applicants as the eligibility bar was set too high and the rules being tweaked to enable many more candidates to apply.
- **Pending Reports:** In the financial year 2021-22, it has met only four times. Its rate of pendency of resolution of complaints and cases that it receives is also close to 50%.

Who are Scheduled Tribes (ST)?

- Article 366 of the Constitution: Such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under article 342 to be Scheduled Tribes for the purposes of this Constitution.
- Article 342: The President may with respect to any State or Union territory, and where it is a State, after consultation with the Governor thereof, by public notification, specify the tribes or tribal communities or parts of or groups within tribes or tribal communities which shall for the purposes of this Constitution be deemed to be Scheduled Tribes in relation to that State or Union territory, as the case may be.
- Criteria: The Constitution is silent about the criteria for the specification of a community as a Scheduled Tribe. Primitiveness, geographical isolation, shyness and social, educational & economic backwardness are the traits that distinguish Scheduled Tribe communities from other communities.
- There are certain Scheduled Tribes, 75 in number known as Particularly Vulnerable Tribal Groups (PVTGs), who are characterized by:- a) pre-agriculture level of technology; b) stagnant or declining population; c) extremely low literacy, and d) subsistence level of the economy.

CONTROVERSY AROUND THE \$500 MILLION MCC GRANT TO NEPAL

In News:

Nepal's House of Representatives has ratified 500 million US Dollar grant assistance-Millennium Challenge Corporation (MCC) pact along with the "interpretative declaration".

Analysis of Background:

What is Millenium Challenge Corporation?

- The MCC was founded in 2004 as a US foreign aid agency that acts in accordance with governments that have demonstrated a commitment to good governance, economic freedom, and citizen investment.
- It was envisioned as an 34riticized34n that would follow the Paris Declaration on Aid Effectiveness' key principles.
- MCC works with countries that have been identified as being eligible for assistance to develop programmes that are based on MCC's purpose of decreasing poverty via economic growth.
- MCC's results framework, which is based on the fourth and fifth principles of the Paris Declaration, Results and Mutual Accountability.
- It provides a framework for applying the agency's rigorous methods for projecting, tracking, and evaluating the effects of its programmes.
- MCC uses this framework to address basic questions about aid effectiveness.

Investments made by MCC

- Compact and threshold programmes are the two types of programmes in which MCC invests.
- Compacts are large, five-year grants implemented by an accountable entity established by each partner nation.
- Thresholds are smaller funds focusing on policy and institutional transformation in selected countries implemented by MCC.

The background of the project

- MCC's partnership with Nepal began in 2011, when the country requested assistance.
- MCC first chose Nepal for a smaller threshold grant, and subsequently in December 2014, for a larger compact.

- Three years later, in September 2017, the MCC-Nepal compact was signed, with the US committing \$500 million and Nepal committing \$130 million.
- Nepal is expected to generate an electricity infrastructure with 400kVA transmission lines through the MCC project, which will be used to distribute power both domestically and to India.
- Furthermore, the MCC's implementation could boost the Nepalese economy by increasing employment possibilities and increasing per capita income.

Issues with the project

- It is estimated that if the agreement is not passed by Parliament, the power producers in the country are likely to lose a staggering Rs. 142 billion every year.
- As a result, PM Sher Bahadur Deuba is striving to get the MCC passed in Parliament as soon as possible, even if it means splitting the coalition government.
- In addition, if he fails to get it through Parliament, there is a possible risk of losing his international credibility.

America vs China: Objections around MCC

- The MCC agreement has created a political divide in Nepal.
- The compact has been criticized in Nepal as endangering the country's sovereignty, integrity, and constitutional autonomy.
- The claim that the MCC agreement supersedes the national charter and shall prevail over Nepal's domestic laws.
- Many have interpreted this to suggest that the compact replaces the constitution, compromising Nepal's sovereignty.
- The MCC's inclusion in the Indo-Pacific Strategy (IPS) is considered problematic for Nepal, as the majority of the country's political class views the US strategy as anti-China.

India's role in the ongoing political crisis in Nepal

- Few claim that the electricity generated by MCC will be only for export to India and will not be for the local public.
- As a result, it will not benefit the local economy directly.
- Nepal's hydroelectric generation potential is huge, with over 6,000 large and small rivers.
- However, through a series of barrages and dams, India has control over the majority of Nepal's major rivers.

- Nationalists in the Himalayan country have strongly objected to this.
- In Nepal, where India is still perceived as a meddling big brother, its goal of strengthening India's military capabilities through this agreement to counter China's was questioned.

FATF RETAINS PAKISTAN ON ITS TERROR FUNDING 'GREY LIST'

In News:

The global money laundering and terrorist financing watchdog Financial Action Task Force (FATF) has retained Pakistan on its terrorism financing "grey list".

Analysis of Background:

What is the FATF?

- FATF is an intergovernmental organization founded in 1989 on the initiative of the G7 to develop policies to combat money laundering.
- The FATF Secretariat is housed at the OECD headquarters in Paris.
- It holds three Plenary meetings in the course of each of its 12-month rotating presidencies.
- As of 2019, FATF consisted of 37 member jurisdictions.

India and FATF

- India became an Observer at FATF in 2006. Since then, it had been working towards full-fledged membership.
- On June 25, 2010, India was taken in as the 34th country member of FATF.
- The EAG (Eurasian Group) is a regional body comprising nine countries: India, Russia, China, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and Belarus.

What is the role of FATF?

- **Watchdog on terror financing:** The rise of the global economy and international trade has given rise to financial crimes such as money laundering.
- **Recommendation against financial crimes:** The FATF makes recommendations for combating financial crime, reviews members' policies and procedures, and seeks to increase acceptance of anti-money laundering regulations across the globe.

What is the Black List and the Grey List?

- **Black List:** The blacklist, now called the “Call for action” was the common shorthand description for the FATF list of “Non-Cooperative Countries or Territories” (NCCTs).
- **Grey List:** Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list. This inclusion serves as a warning to the country that it may enter the blacklist.

Consequences of being in the FATF black list:

- **Economic sanctions** from IMF, World Bank, ADB
- **Problem in getting loans** from IMF, World Bank, ADB and other countries
- **Trade sanctions:** Reduction in international trade
- **International boycott.**

Pakistan and FATF

- Pakistan, which continues to remain on the “grey list” of FATF, had earlier been given the deadline till June to ensure compliance with the 27-point action plan against terror funding networks.
- It has been under the FATF’s scanner **since June 2018**, when it was put on the Grey List for terror financing and money laundering risks.
- FATF and its partners such as the Asia Pacific Group (APG) are reviewing Pakistan’s processes, systems, and weaknesses on the basis of a standard matrix for anti-money laundering (AML) and combating the financing of terrorism (CFT) regime.

INDIANS GO ABROAD FOR MEDICAL STUDIES.

In News:

- According to estimates from Ukraine, reported in the media, around 18,000 Indian students are in Ukraine (before Operation Ganga).
- Most of them are pursuing medicine.
- This war has turned the spotlight on something that has been the trend for about three decades now.

Analysis of Background:

Preferred countries for medical degree

- For about three decades now, Indian students have been heading out to Russia, China, Ukraine, Kyrgyzstan, Kazakhstan, and Philippines to pursue a medical degree.

Hype of becoming a Doctor

- **Prestige:** The desire to study medicine still holds a lot of value in the Indian community (the other is becoming an IAS officer).
- **Shortages of Doctor:** In many rural areas, people still look at doctors as god's incarnate.
- **Rarity of opportunity:** The lack of equal opportunities exacerbated by the caste factor in the Indian context, has a great deal of impact on the prestige still associated with being a doctor.
- **Social upliftment ladder:** For years, certain communities were denied the opportunities, and finally they do have a chance at achieving significant educational status.

Why go abroad?

- **No language barrier:** The medium of education for these students is English, a language they are comfortable with.
- **Affordability:** The amount spent on living and the medical degree are far more affordable than paying for an MBBS seat in private medical colleges in India.
- **Aesthetics and foreign culture:** People are willing to leave their home to study far away in much colder places and with completely alien cultures and food habits.
- **Practice and OPD exposure:** It broadens students' mind and thinking, expose them to a whole range of experiences, and their approach to issues and crises is likely to be far better.

Doesn't India have enough colleges?

(a) More aspirants than seats

- There are certainly far more MBBS aspirants than there are MBBS seats in India.
- In NEET 2021, as per a National Testing Agency press release, 16.1 lakh students registered for the exam, 15.4 lakh students appeared for the test, and 8.7 lakh students qualified.
- As per data from the National Medical Commission (NMC), in 2021-22, there were 596 medical colleges in the country with a total of 88,120 MBBS seats.

- While the skew is in favour of Government colleges, it is not greatly so, with the number of private medical institutions nearly neck-to-neck with the state-run ones.

(b) Fees structure

- That means over 50% of the total seats are available at affordable fees in Government colleges.
- Add the 50% seats in the private sector that the NMC has mandated must charge only the government college fees.
- In fully private colleges, the full course fees range from several lakhs to crores.

(c) Uneven distribution of colleges

- These colleges are also not distributed evenly across the country, with States such as Maharashtra, Karnataka, Tamil Nadu and Kerala having many more colleges.

What about costs?

- The cost factor on both sides of an MBBS degree is significant.
- The costs of an MBBS degree in a Government college tot up to a few lakhs of rupees for the full course, but in a private medical college, **it can go up to ₹1 crore for the five-year course.**
- In case it is a management seat, capitation fees can inflate the cost by several lakhs again.
- Whereas, an MBBS course at any foreign medical university in the east and Eastern Europe costs far less (upto ₹30lakh-₹40 lakh).

Way forward

- While PM Modi emphasised that more private medical colleges must be set up in the country to aid more people to take up MBBS, medical education experts have called for pause on the aspect.
- If the aim is to make medicine more accessible to students of the country, the path ahead is not in the private sector, but in the public sector, with the Central and State governments' involvement.
- Starting private medical colleges by reducing the strict standards set for establishing institutes may not actually be the solution to this problem, if we think this is a concern.

INTERNATIONAL COURT OF JUSTICE

In News:

Ukraine has filed an application before the International Court of Justice (ICJ), instituting proceedings against the Russian Federation for committing Genocide.

Analysis of Background:

International Court of Justice

- The ICJ is the principal judicial organ of the United Nations (UN).
- It was established in June 1945 by the Charter of the United Nations and began work in April 1946.
- The court is the successor to the Permanent Court of International Justice (PCIJ), which was brought into being through, and by, the League of Nations.
- It held its inaugural sitting at the Peace Palace in The Hague, Netherlands, in February 1922.

Establishment:

- After World War II, the League of Nations and PCIJ were replaced by the United Nations and ICJ respectively.
- The PCIJ was formally dissolved in April 1946, and its last president, Judge José Gustavo Guerrero of El Salvador, became the first president of the ICJ.
- The first case, which was brought by the UK against Albania over concerning incidents in the Corfu channel — the narrow strait of the Ionian Sea between the Greek island of Corfu and Albania.

Seat and role

- Like the PCIJ, the ICJ is based at the Peace Palace in The Hague.
- It is the only one of the six principal organs of the UN that is not located in New York City.
- The other five organs are:
 1. General Assembly
 2. Security Council
 3. Economic and Social Council
 4. Trusteeship Council

5. Secretariat

- The court as a whole must represent the main forms of civilization and the principal legal systems of the world.
- The judges of the court are assisted by a Registry, the administrative organ of the ICJ. English and French are the ICJ's official languages.

Jurisdiction of ICJ

- All members of the UN are automatically parties to the ICJ statute, but this does not automatically give the ICJ jurisdiction over disputes involving them.
- The ICJ gets jurisdiction only if both parties consent to it.
- The judgment of the ICJ is final and technically binding on the parties to a case.
- There is no provision of appeal; it can at the most, be subject to interpretation or, upon the discovery of a new fact, revision.
- However, the ICJ has no way to ensure compliance of its orders, and its authority is derived from the willingness of countries to abide by them.

Judges of the court

- The ICJ has 15 judges who are elected to nine-year terms by the UN General Assembly and Security Council, which vote simultaneously but separately.
- To be elected, a candidate must receive a majority of the votes in both bodies, a requirement that sometimes necessitates multiple rounds of voting.
- Elections are held at the UNHQ in New York during the annual UNGA meeting.
- A third of the court is elected every three years.
- The judges elected at the triennial election commence their term of office on February 6 of the following year.
- The president and vice-president of the court are elected for three-year terms by secret ballot. Judges are eligible for re-election.

India in ICJ

- Four Indians have been members of the ICJ so far.
- Justice Dalveer Bhandari, former judge of the Supreme Court, has been serving at the ICJ since 2012.
- Former Chief Justice of India R S Pathak served from 1989-91, and former Chief Election Commissioner of India Nagendra Singh from 1973-88.
- Singh was also president of the court from 1985-88, and vice-president from 1976-79.

- Before him, Sir Benegal Rau, who was an advisor to the Constituent Assembly, was a member of the ICJ from 1952-53.

Indian cases at the ICJ

- India has been a party to a case at the ICJ on six occasions, four of which have involved Pakistan.
- They are:
 1. Right of Passage over Indian Territory (Portugal v. India, culminated 1960);
 2. Appeal Relating to the Jurisdiction of the ICAO Council (India v. Pakistan, culminated 1972);
 3. Trial of Pakistani Prisoners of War (Pakistan v. India, culminated 1973);
 4. Aerial Incident of 10 August 1999 (Pakistan v. India, culminated 2000);
 5. Obligations concerning Negotiations relating to Cessation of the Nuclear Arms Race and to Nuclear Disarmament (Marshall Islands v. India, culminated 2016); and
 6. (Kulbhushan) Jadhav (India v. Pakistan, culminated 2019).

BASIS	INTERNATIONAL CRIMINAL COURT	INTERNATIONAL COURT OF JUSTICE
Relationship with the United Nations	Independent; UN Security Council may refer matters to it	Primary judicial branch of the UN.
Members	105 members	193 members (all members of the United Nations).
Derives authority from	The Rome Statute	Charter of the United Nations and the Statute of the International Court of Justice.

Scope of work	Criminal matters – investigating and prosecuting crimes of genocide, crimes against humanity, and war crimes	Civil matters- settling legal disputes between the member-states and giving advisory opinions on international legal issues
Jurisdiction	Only the member nations of the ICC, which means around 105 countries. Can try individuals.	All the member nations of the UN, which means 193 countries. Cannot try individuals and other private entities.
Composition	1 prosecutor and 18 judges, who are elected for a 9-year term each by the member-states which make up the Assembly of State Parties with all being from different nations	15 judges who are elected for a 9-year term each and are all from different nations.
Funding	Funded by state parties to the Rome Statute and voluntary contributions from the United Nations, governments, individual corporations, etc.	Funded by the UN.

AK 203 ASSAULT RIFLE DEAL

In News:

The Ukraine crisis delays Ak-203 assault rifle deal with Russia. With repeated delays in the deals for procurement of AK-203 assault rifles, India had signed a deal in August for 70,000 AK-103 assault tickets to be procured off the shelf.

Analysis of Background:

Why AK 203 assault rifles?

- AK-203 assault rifle is considered to be the latest and most advanced version of the AK-47 rifle.
- It is a 7.62×39mm variant from the AK-100 rifle family (one that offers the AK-74M system, in multiple cartridges and lengths).
- This variant is expected to replace the Indian Small Arms System (INSAS) 5.56×45 mm assault rifle, that are presently being used by Army, Navy and the Air Force besides other security forces.
- INSAS rifles are not suitable for use at high altitude. Several other issues with these rifles include gun jamming, oil leakage etc.

AK 203: Strengths & Advantages:

- Popular because of robust mechanics and simplicity of operation, these rifles have been tested under the conditions of extreme heat and cold.
- This variant is an advanced version of AK-47 and its magazine can hold 30 bullets.
- Unlike the INSAS rifles, these rifles never get jammed as these belong to AK series.
- These rifles are a type of Kalashnikov rifles, which can work under extreme climatic conditions and are effective even in sand, soil and water.
- These rifles also offer high degree of versatility, adjustability and customizability.
- The 7.62 mm ammunition in AK-203 gun is NATO grade and therefore more powerful.
- The rifle, which can fire 600 bullets in one minute, means 10 bullets in a second, can be used in automatic and semi-automatic mode.

Manufacturing of 7.5 lakh AK-203 rifles in Uttar Pradesh:

- India and Russia had signed an Inter-Governmental Agreement (IGA) in February 2019 for production of AK 203 assault rifles.
- For this, a Joint venture was formed between Ordnance Factories Board (OFB) on the Indian side, and Rosonboron Exports and Concern Kalashnikov on the Russian side.

- Other India-Russia bilateral projects currently underway include indigenous production of T-90 tanks and Su-30-MK aircraft, supply of MiG-29-K aircraft and Kamov-31 and Mi-17 helicopters, upgrade of MiG-29 aircraft and supply of Multi-Barrel Rocket Launcher Smerch.
- Both the countries have also collaborated to develop and produce supersonic BrahMos cruise missiles in India.

NO-FLY ZONE

In News:

Russia's attack on Ukraine's Zaporizhzhia nuclear power plant has renewed calls for NATO to impose a no-fly zone over Ukraine, despite the repeated rejection of the idea by western leaders concerned about triggering a wider war in Europe.

Analysis of Background:

- A no-fly zone would bar all unauthorized aircraft from flying over Ukraine.
- Western nations imposed such restrictions over parts of Iraq for more than a decade following the 1991 Gulf War, during the civil war in Bosnia and Herzegovina from 1993-95, and during the Libyan civil war in 2011.

Why won't NATO take this step in Ukraine?

- Military analysts say there is no chance that the US, Britain and their European allies will impose a no-fly zone because it could easily escalate the war in Ukraine into a nuclear confrontation between NATO and Russia.
- Declaring a no-fly zone could force NATO pilots to shoot down Russian aircraft.
- In addition to fighter planes, NATO would have to deploy refueling tankers and electronic-surveillance aircraft to support the mission.
- To protect these relatively slow, high-flying planes, NATO would have to destroy surface-to-air missile batteries in Russia and Belarus, again risking a broader conflict.

North Atlantic Treaty Organisation:

- It is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April, 1949, by the United States, Canada, and several Western European nations to provide collective security against the Soviet Union.
- A key provision of the treaty, the so-called Article 5, states that if one member of the alliance is attacked in Europe or North America, it is to be considered an attack on all members. That effectively put Western Europe under the "nuclear umbrella" of the US.
- As of 2019, there are 29 member states, with Montenegro becoming the latest member to join the alliance in 2017.

THE COMPLEXITIES FOR IMPLEMENTING A NO-FLY ZONE

In News:

The North Atlantic Treaty Organization (NATO) Secretary General stated that the organisation would not designate the Ukrainian airspace as a 'No Fly Zone' which he said would lead to a full-fledged war in Europe, involving many more countries and resulting in greater human suffering.

Analysis of Background:

What is a No-Fly Zone ?

- In simple terms, a No-Fly Zone refers to a particular airspace wherein aircraft, excluding those permitted by an enforcement agency, are barred from flying.
- Articles under Chapter VII of the United Nations Charter dealing with Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression' are invoked to authorise a potential no-fly zone.
- Article 39 dictates the United Nations Security Council (UNSC) to determine the probable existence of any threat to peace or an act of aggression.
- It suggests further measures, if required, are to be carded out in accordance to Article 41 and 42 to restore international peace and security.
- No fly zones have been implemented without UN mandate too.

Cases of implementation

- In 1991 after the first Gulf War, U.S. and its coalition partners imposed two no fly zones over Iraq to prevent Saddam Hussain from attacking ethnic groups.
- In non-combat situations, No fly zones can be imposed permanently and temporarily over sensitive installations or for high profile events like Olympics.

What is the feasibility of 'No fly zone over Ukraine'?

- No-fly zone declarations are essentially a compromise in situations demanding a response to ongoing violence, but full military intervention is politically untenable.
- NATO has previously imposed No-Fly Zones in non-member states like Libya and Bosnia. With Russia it fears a full-fledged war in Europe.
- It has been demanding that NATO scale back to the pre-1997 arrangements. Both Russia and Ukraine are not members of NATO.
- Due to this the idea of imposing a no fly zone' over Ukraine has been rejected outright.
- If implemented, it means NATO deploying aircraft and assets which would result in a direct confrontation with Russia.

What are the broad contours in a No-Fly Zone?

- The UNSC had banned all flights in the Libyan airspace post adoption of Resolution 1973 in 2011 in response to the Libyan Civil War.
- Member states were asked to deny permission to any Libyan registered aircraft to use the territory without requisite approval.
- Further, the member states could bar any entity from flying if they found reasonable grounds to believe the aircraft is ferrying lethal or non-lethal military equipment.
- Member states were permitted to allow flights whose sole purpose was humanitarian, such as delivery of medical supplies and food, chauffeur humanitarian workers and related assistance, or evacuating foreign nationals from the territory.

HUMANITARIAN CORRIDORS

In News:

Russia announced humanitarian corridors would open in several Ukrainian cities, after civilians came under fire in two previous attempts of the Moscow's forces pummeling cities across the country.

Analysis of Background:

- The United Nations considers humanitarian corridors to be one of several possible forms of a temporary pause of armed conflict.
- They are demilitarized zones, in a specific area and for a specific time - and both sides of an armed conflict agree to them.
- Humanitarian corridors have been put in place since the mid-20th century.
- Purpose - Via these corridors, either food or medical aid can be brought to areas of conflict, or civilians can be evacuated.
- The corridors are necessary when cities are under siege and the population is cut off from basic food supplies, electricity and water.
- In cases where a humanitarian catastrophe unfolds because the international law of war is being violated humanitarian corridors can provide crucial relief.
- Setting up - In most cases, humanitarian corridors are negotiated by the United Nations. Sometimes they're also set up by local groups.
- Since all sides need to agree to set up the corridors, there is a risk of military or political abuse.
- Accessibility - Access to humanitarian corridors is determined by the parties to the conflict.
- It's usually limited to neutral actors, the UN or aid organizations such as the Red Cross.
- They also determine the length of time, the area and which means of transport - trucks, buses or planes - are allowed to use the corridor.
- These corridors can also be used by UN observers, NGOs and journalists to gain access to contested areas where war crimes are being committed.

FUNCTIONING OF THE ISS AFTER US SANCTIONS

In News:

Western sanctions against Russia could cause the International Space Station (ISS) to crash, the head of Russian space agency Roscosmos has warned.

Analysis of Background:

What is the ISS?

- The ISS was launched in 1998 as part of joint efforts by the U.S., Russia, Japan, Canada and Europe.

- The idea of a space station originated in the 1984 State of the Union address by former U.S. President Ronald Reagan.
- The space station was assembled over many years, and it operates in low-earth orbit.
- Since its inception, it has served as a laboratory suspended in space and has aided multiple scientific and technological developments.
- The ISS was originally built to operate for 15 years.

Why was ISS launched?

- A space station permits quantum leaps in research in science, communications, and in metals and lifesaving medicines which could be manufactured only in space.
- ISS has consistently maintained human presence for the past 21 years, providing astronauts with sophisticated technologies for scientific research.

What is Russia's role in maintaining the ISS?

- The ISS is built with the co-operation of scientists from five international space agencies — NASA of the U.S., Roscosmos of Russia, JAXA of Japan, Canadian Space Agency and the European Space Agency.
- Each agency has a role to play and a share in the upkeep of the ISS.
- Both in terms of expense and effort, it is not a feat that a single country can support.
- Russia's part in the collaboration is the module responsible for making course corrections to the orbit of the ISS.
- They also ferry astronauts to the ISS from the Earth and back.
- Until SpaceX's dragon spacecraft came into the picture the Russian spacecrafts were the only way of reaching the ISS and returning.

Why does the orbit of the ISS need to be corrected?

- Due to its enormous weight and the ensuing drag, the ISS tends to sink from its orbit at a height of about 250 miles above the Earth.
- It has to be pushed up to its original line of motion every now and then.
- This is rather routine, even for smaller satellites.
- Approximately once a month this effort has to be made.
- The other reason for altering the path of the ISS is to avoid its collision with space debris, which can damage the station.

Risks of crashing

- The orbit of the ISS does not fly over the Russian territory mostly.
- Places that are closer to the equator run a greater risk of it falling in their domain.

- The orbit is at about 50 degrees and so most probably, the ISS will fall in that level.
- But this is only a probability, as it can move or disintegrate.
- But in case of this eventuality, people in the ISS will be brought back, modules can be detached thereby making it much smaller which will ensure that it disintegrates before touching the earth.

ZAPORIZHZHIA POWER PLANT

In News:

Russian forces in Ukraine have been shelling the Zaporizhzhia power plant.

Analysis of Background:

- The Zaporizhzhia nuclear power plant, built between 1984 and 1995, is the largest nuclear power plant in Europe and the ninth largest in the world.
- In normal times it produces one-fifth of Ukraine's electricity and almost half the energy generated by the country's nuclear power facilities.
- The plant is located in south-east Ukraine in Enerhodar on the banks of the Kakhovka reservoir on the Dnieper river. It is about 200km from the contested Donbas region and 550km south-east of Kyiv.



IAEA

In News:

India abstains from vote to probe actions of Russia at the International Atomic Energy Agency (IAEA) in Vienna.

Analysis of Background:

- The IAEA vote was particularly significant as it related to safety at four nuclear power stations and a number of nuclear waste sites including Chernobyl, as the Russians seized control of them.

About International Atomic Energy Agency:

- Established as the world's "Atoms for Peace and Development" organization within the United Nations.
- The IAEA is the international centre for cooperation in the nuclear field.
- The IAEA was created in 1957 in response to the fears generated by the discoveries and diverse uses of nuclear technology.
- Its Headquarter is in Vienna, Austria.
- The Agency works with its Member States and multiple partners worldwide to promote safe, secure and peaceful use of nuclear technologies.
- In 2005, it was awarded the Nobel Peace Prize for their work for a safe and peaceful world.
- It is an independent international organization that reports annually to the United Nation General Assembly.
- The IAEA also reports to the UN Security Council in regards to instances of members' non-compliance with safeguards and security obligations.

ASIAN INFRASTRUCTURE INVESTMENT BANK

In News:

The Beijing-based Asian Infrastructure Investment Bank (AIIB) said it was putting on hold and reviewing all projects in Russia and Belarus.

Analysis of Background:

About AIIB

- The Asian Infrastructure Investment Bank (AIIB) is a multilateral development bank with a mission to improve social and economic outcomes in Asia, began operations in January 2016.
- It aims to stimulate growth and improve access to basic services by furthering interconnectivity and economic development in the region through advancements in infrastructure.
- AIIB has now grown to 102 approved members worldwide. US & Japan are not its members.
- It is a brainchild of China. It has invested in 13 member regions.

Capital and shareholding of AIIB

- It has authorized capital of US 100 billion dollars and subscribed capital of USD 50 billion.
- It offers sovereign and non-sovereign finance for projects in various sectors with an interest rate of London Interbank Offered Rate (LIBOR) plus 1.15 % and a repayment period of 25 years with 5 years in grace period.
- China is the largest shareholder in AIIB with a 26.06% voting power, followed by India with 7.62% and Russia with 5.92% voting power.

EGYPT HIKES SUEZ CANAL TRANSIT FEES FOR SHIP

In News:

Cash-strapped Egypt increased transit fees for ships passing through the Suez Canal, one of the world's most crucial waterways, with hikes of up to 10%.

Analysis of Background:

Suez Canal

- The Suez Canal is an artificial sea-level waterway in Egypt, connecting the Mediterranean Sea to the Red Sea through the Isthmus of Suez; and dividing Africa and Asia.
- Constructed by the Suez Canal Company between 1859 and 1869, it officially opened on 17 November 1869.
- The canal was earlier controlled by British and French interests in its initial years but was nationalized in 1956 by Egypt's then leader Gamal Abdel Nasser.

- It extends from the northern terminus of Port Said to the southern terminus of Port Tewfik at the city of Suez.
- Its length is 193.30 km including its northern and southern access channels.



Its significance

- The Suez Canal provides a crucial link for oil, natural gas and cargo being shipping from East to West.
- About 10% of global trade, including 7% of the world's oil, flows through the Suez Canal.
- It provides a major shortcut for ships moving between Europe and Asia, who before its construction had to sail around Africa to complete the same journey.
- As per a report, the canal is a major source of income for Egypt's economy, with the African country earning \$5.61 billion in revenues from it last year.

QUAD GROUP

In News:

U.S. Admiral termed the Quad grouping as a “diplomatic arrangement”.

Analysis of Background:

About QUAD:

- It is a bloc of countries positioning itself as a check against China's growing aggression in the Indo-Pacific and outside.
- India is a "critical and crucial" member of the Quad.

Background:

- In the aftermath of Indian Ocean tsunami of 2004, Australia, Japan, India, and America formed a Regional Core Group in 2004.
- Then Japanese PM Shinzo Abe proposed an “Arc of Freedom and Prosperity” in 2006.
- The first meeting of the initial Quad was held in May 2007 as officials gathered for the ASEAN Regional Forum meeting.
- Japanese PM Shinzo Abe after returning to office called for a “democratic security diamond,” a Quad 2.0.

QUAD 2.0:

- The move to set up the quadrilateral also comes in the backdrop of growing Chinese assertiveness in the South China Sea and China’s aggressive posturing.
- Since its revival in late 2017, the Quad met twice a year in 2018 and 2019.
- In New York in September 2019, the four countries held the first ministerial-level meeting of the Quad “to discuss collective efforts in shared commitments and close cooperation on counter terrorism, mentoring, assistance in disaster relief, maritime security, cooperation, development, finance and cyber security efforts.”

Significance of quad- grouping:

- All four nations share a deep interest in maintaining a stable balance of power in the Indo-Pacific and preventing a regional state from becoming dominant.
- All four states share an interest in deterring the use of forceful or coercive practices to resolve political and territorial disputes in the region.
- All four states are committed to the current rules-based economic order in the Indo-Pacific. This is based on free trade, open investment environments, open competitive tendering, the rule of law, and standards of good governance from which all continue to benefit.
- All four nations support to strengthen liberal democratic governance within the Indo-Pacific. The region has not been immune to the global decline in observance of political rights and civil liberties.

How is China responding to quad?

- China's endeavor is to conflate the Quad with the Indo-Pacific vision, and link both to the so-called China Containment Theory.
- In 2016, China itself established a Quadrilateral Cooperation and Coordination Mechanism with Afghanistan, Pakistan and Tajikistan.
- More recently, China has established Quadrilateral Cooperation with Pakistan, Afghanistan and
- The strategic community in China, nevertheless, had branded it an emerging "Asian NATO".

Quad Nations and China:

- USA had followed a policy to contain China's increasing influence in East Asia. Therefore, USA sees the coalition as an opportunity to regain its influence in the Indo-Pacific region.
- Australia is concerned about China's growing interest in its land, infrastructure and politics, and influence on its universities.
- Japan has expressed concerns related to China's territorial transgression in the region.

- China's violation of international norms, particularly its construction of military facilities on reclaimed islands in the South China Sea, and its growing military and economic power, pose a strategic challenge to India.

QUAD Significance for India:

- Act East Policy: It gives a powerful platform to advance its interests in East Asia, coordinate strategies with powerful friends and add more strength to its Act East initiative.
- It will deepen India's ties with US, Australia and Japan and will provide New Delhi significant leverage in shaping US policies in Afghanistan-Pakistan to the benefit of India.
- Through QUAD India seeks to reassert rule based world order to counter China's growing power and assertion.
- Defense-related spending reduced in this time of COVID pandemic and associated with lockdowns, Quad will provide heavyweight to India's interests.
- Sustainable Development in the Indian Ocean Region: India holds the responsibility to act as the net security provider in the Indian Ocean region.
- Issue-based alliance or minilateralism: India has moved beyond non-alignment towards an issue-based alliance with no formal agreements. Therefore, joining Quad will be in line with the present foreign policies of the government.

Challenges:

- Translating intent into action will require a strengthening of ties in existing fields, as well as non-traditional areas such as cyber/information security, energy and climate change, disaster management, etc.
- Poor Indian and Japanese financial and logistical bandwidth to competitively invest in the IPR compounds the Quad's shortcomings.
- Complex economic relationships between the Core Quad and China— for all Quad members, China is either the first or the second largest trading partner, or a key import/export partner.

- If the Quad begins a Quad-plus initiative, it will not only be confronting these challenges, but will also have to contend with other issues such as disputes even amongst members, and differing dispositions towards China.

Challenges for India:

- **Non-alignment:** India is abandoning its “sacred” tradition of non-alignment.
- **Trustworthiness of US:** US military alliances with Japan and the Philippines has not provided any challenge to Chinese aggression in the region.
- **No clarity on objectives:** India wants advancing the security and economic interests of all countries having legitimate and vital interests in the Asia-Pacific region whereas US is pitching for mutating the Indo-Pacific Quad into a more formal security grouping modelled on NATO.
- **Individual visions of the Indo-Pacific:** It would be difficult to align the combined vision of the grouping with that of their individual visions regarding Indo-Pacific.
- **Internal economic changes:** If India wants to engage the Quad partners on reforming the China-centred economic globalisation, it also requires to engineer many changes on trade-related aspects, which might prove to be difficult, given India’s drive for self-reliance

Recommendations for greater collaboration among quad member governments in the years to come:

- **Establish Working Groups On Defense And Infrastructure:** Broadening the current Quad format of foreign ministry senior official-level meetings to include representatives from defense ministries would be a necessary first step toward creating a whole-of-Quad “working 2+2.”
- **Develop An Indo-Pacific Infrastructure And Development Coordination Working Group:** it would ensure that all four Quad nations are committed to creating a roadmap to sustainable, high-quality infrastructure for developing countries. It would further permit the streamlining of various inter- Quad infrastructure initiatives, including the Japan India sponsored Asia-Africa growth corridor.

- Pursue An Annual Meeting Of Joint Operational Commands And Encouragement Of Exchanges
- Add Crisis Response, Humanitarian Aid, And Disaster Relief to the Quad's Agenda.
- Appeal To ASEAN: The Quad should seek to harness consensus with ASEAN as a whole, promoting cooperation in the shared interests among the two.
- 2+2 And Malabar: Three of the four Quad countries enjoy ministerial-level "2+2" defense and foreign ministers dialogues with one another. India and Australia should upgrade their "2+2" to the ministerial level to close the loop and complete the square.
- Boost Non-Traditional Security Cooperation: elevating collaboration on mine-sweeping technologies, anti-piracy operations, and pollution control, pandemic responses, joint escorts of international shipping, force structuring, coast guard collaboration, counter-proliferation initiatives, and exchange of information on white shipping.
- Expand Cooperation On Space And Maritime Domain Awareness.

BIOLOGICAL AND TOXIN WEAPONS CONVENTION

In News:

Russia called for a Security Council meeting on the issue of biological laboratories in Ukraine.

Analysis of Background:

India's stand:

- India said any matters relating to obligations under the Biological and Toxin Weapons Convention should be addressed through consultation and cooperation between the parties concerned.
- All parties must ensure full and effective implementation of the BTWC in letter and spirit.

Biological and Toxin Weapons Convention (BTWC)

- It is a disarmament treaty that effectively bans biological and toxin weapons by prohibiting their development, production, acquisition, transfer, stockpiling and use.
- Having entered into force on 26 March 1975, the BWC was the first multilateral disarmament treaty to ban the production of an entire category of weapons of mass destruction.
- The convention is of unlimited duration.
- **Membership:** As of January 2022, 183 states have become party to the treaty. India has signed and ratified this treaty.
- Convention's effectiveness has been limited due to insufficient institutional support and the absence of any formal verification regime to monitor compliance.

SHUTDOWN THIS MISGUIDED ENERGY POLICY

In News:

Russia's attacks triggered fire near the Zaporizhzhia nuclear plant in Ukraine.

Analysis of Background:

- The Zaporizhzhia nuclear plant in Ukraine is Europe's largest nuclear plant.
- Russian troops seized the Zaporizhzhia nuclear power plant after intense fighting during which shelling caused a fire to break out at a training facility on the site.
- A major catastrophe would have happened if the fire had further spread across the site.

India's Nuclear Energy

- India presently has the capacity of 6780 MW of electricity generation via Nuclear Energy.
- Present share of Nuclear Energy in 1%.
- India plans to expand the capacity to 22480 MW by 2031.
- Many new nuclear power plants have been proposed among which Jaitapur Power Plant is most remarkable.

Advantages of Nuclear Energy:

- Reduce India's Energy Poverty where about 20% of the population still does not

have access to energy.

- Meeting the energy demand of the country which is ever increasing.
- Providing an impetus to economic growth via sustainable energy supply.
- Quantities of fuel needed for nuclear power plants are lower than conventional energy generation units making it more efficient.
- Energy Supply via Nuclear Power Plant is Climate Change Resilient.
- Largely environment friendly and non polluting.

Issues with Nuclear Energy:

- Capital Intensive and can suffer from cost overruns. Eg. V.C. Summer Nuclear Project, U.S.A
- Declining trend can be seen globally in the contribution of nuclear energy to energy supply. Eg. US' capacity is projected to be contracting.
- India's import dependency might bring issues in other countries to India. Eg. Indo-US Civil Nuclear Deal has not led to establishment of a single nuclear power plant in 13 years.
- High Transmission costs would lead to provision of high subsidies putting pressure on government expenses.
- Local People and Community have had Security concerns over the Nuclear Projects
- Liability law of India isn't strong enough to hold the corporate entities accountable in event of a mishap with a Nuclear Power Plant.
- Climate Change is increasing the risk of Nuclear Accidents. Eg. Hanul Nuclear Plant in South Korea.

India must tread cautiously while expanding its Nuclear Energy Program It must strengthen its accountability and liability mechanism, devise ways to make nuclear energy competitive and cheap and ensure safety at the same time. India must assess all its investments with due consideration with all stakeholders. The technology must be harnessed but with care and consideration.

INDIA FOR TALKS ON 'BIOLABS' ISSUE

In News:

Amidst the Ukraine-Russia conflict, India said any matters relating to obligations under the Biological and Toxin Weapons Convention (BTWC) should be addressed

through consultation and cooperation between the parties concerned.

Analysis **of** **Background:**
Biological and Toxin Weapons Convention (BTWC):

- The Biological and Toxin Weapons Convention (BTWC) was the first multilateral treaty categorically banning a class of weapons.
- The treaty prohibits the development, stockpile, production, or transfer of biological agents and toxins of “types and quantities”.
- It is a treaty that came into force in 1975 and prohibits the development, production, acquisition, transfer, stockpiling and use of biological weapons.
- A total of 183 countries are party to the treaty that outlaws bioweapons, including the US, Russia and Ukraine.

GENEVA CONVENTION

In News:

Geneva Conventions and the Russia-Ukraine war.

Analysis of Background:

What are the Geneva Conventions guidelines during wartime?

- The Geneva Conventions are a set of four treaties, formalised in 1949, and three additional protocols, which codify widely accepted ethical and legal international standards for humanitarian treatment of those impacted by war.
- The focus of the Conventions is the treatment of non-combatants and prisoners of war, and not the use of conventional or biological and chemical weapons, the use of which is governed respectively by the Hague Conventions and the Geneva Protocol.
- The First Geneva Convention protects wounded and sick soldiers on land during war.
- The Second Geneva Convention protects wounded, sick and shipwrecked military personnel at sea during war.
- The Third Geneva Convention applies to prisoners of war, including a wide range of general protections such as humane treatment, maintenance and equality across prisoners, conditions of captivity, questioning and evacuation of prisoners, transit

camps, food, clothing, medicines, hygiene and right to religious, intellectual, and physical activities of prisoners.

- The Fourth Geneva Convention protects civilians, including those in occupied territory. The other Geneva Conventions were concerned mainly with combatants rather than civilians.
- Two Protocols of 1977: Additional to the four 1949 Geneva Conventions were adopted in 1977. They strengthen the protection of victims of international (Protocol I) and non-international (Protocol II) armed conflicts and place limits on the way wars are fought.
- In 2005, a third Additional Protocol was adopted creating an additional emblem, the Red Crystal, which has the same international status as the Red Cross and Red Crescent emblems.

Which countries are signatories?

- The Geneva Conventions have been ratified by 196 states, including all UN member states.
- The four conventions and first two protocols of the Geneva Conventions were ratified by the Soviet Union, not Russia.

What would be the steps for potential prosecution under the Conventions?

- Under **Article 8 of the Rome Statute of the ICC**, it is the ICC that has jurisdiction in respect of war crimes, in particular.
- Under the statute, 'war crimes' refers to Grave breaches of the Geneva Conventions including
 - wilful killing, torture or inhuman treatment, including biological experiments;
 - wilfully causing great suffering, or serious injury to body or health;
 - extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly;
 - compelling a prisoner of war or other protected person to serve in the forces of a hostile Power;
 - wilfully depriving a prisoner of war or other protected person of the rights of fair and regular trial;
 - unlawful deportation or transfer or unlawful confinement; taking of hostages.

OIC

In News:

India asks Organisation of Islamic Cooperation not to back terror groups.

Analysis of Background:

About Organisation of Islamic Cooperation

- It was formerly known as the Organisation of the Islamic Conference.
- It is an international organization founded in 1969, consisting of 57 member states, with 49 countries being Muslim-majority countries.
- The organisation states that it is "the collective voice of the Muslim world" and works to "safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony".
- The OIC has permanent delegations to the United Nations and the European

India and OIC:

- Islam is the second-largest religion in India after Hinduism, with over 200 million Muslims making up approximately 15% of the country's total population.
- India has the largest Muslim population outside of Muslim-majority or Islamic states.
- However, India's relationship with Pakistan, has been riddled with hostilities and armed conflict since the 1947 Partition of India.
- The poor relationship between the two states has had a direct impact on India–OIC relations due to Pakistan's status as a founding member of the organization.
- India has pushed for the OIC to accept it as a member state, arguing that Indian Muslims comprise 11% of the world's total Muslim population; Pakistan has staunchly opposed the entry of India into the organization.
- Pakistan has cited its conflict with India over the Kashmir region as the reason for its opposition, and frequently accuses India of perpetrating widespread human rights abuses against Kashmiris in the Indian-administered territory of Jammu and Kashmir, which has witnessed an ongoing militant uprising since the 1980s.

RCEP

In News:

Japan still hopes India will re-join RCEP Regional Comprehensive Economic Partnership (RCEP) that it quit in 2019.

Analysis of Background:

Japan views:

- RCEP will benefit the Indian economy with a better supply chain, especially with ASEAN countries.
- India will be treated exceptionally as a founder member and if India is willing to negotiate its re-entry to RCEP.
- India-Japan collaborations may suffer higher tariffs in Asia if India stays out.

What is RCEP?

- The initiative to establish RCEP was taken by the member-states of the Association of Southeast Asian Nations (ASEAN) in 2011.
- Membership: It consists of the 10 ASEAN members and Australia, China, Japan, South Korea and New Zealand.
- The China-backed group is expected to represent at least 30% of the global GDP and will emerge as the largest free trade agreement in the world.
- RCEP negotiations on a framework for investment “to cover the four pillars of promotion, protection, facilitation and liberalization”.

Purpose:

- To make it easier for products and services of each of these countries to be available across this region.
- To boost commerce among the member-countries spread across the asia-pacific region.



India and RCEP:

- RCEP was originally being negotiated between 16 countries — ASEAN members and countries with which they have free trade agreements (FTAs), namely Australia, China, Korea, Japan, New Zealand and India.
- India, after seven years of protracted negotiations decided to exit the grouping.

Reasons for not joining RCEP:

- protecting indian economy from burgeoning trade deficits with a majority of the 15 RCEP members.
- the final agreement does cover and attempt to address issues that India had flagged including rules of origin, trade in services, movement of persons and, crucially, remedies and safeguards.
- rules of origin— the criteria used to determine the national source of a product — in the absence of which some countries could dump their products by routing them through other countries that enjoyed lower tariffs.
- “inadequate” protections against surges in imports.

- India wanted RCEP to exclude most-favoured nation (MFN) obligations from the investment chapter, especially to countries with which it has border disputes.

China's presence:

- Escalating tensions with China
- RCEP is a China-backed grouping.
- To safeguard the interests of industries like agriculture and dairy and to give an advantage to the country's services sector.
- India has trade deficits with 11 of the 15 RCEP countries.
- The agreement would have forced India to extend benefits given to other countries for sensitive sectors like defence to all RCEP members.

Implications of India not joining RCEP:

- Impact India's 'Act East' strategy, as it an asymmetry in terms of the network of relationship that India is trying to establish.
- It would impact India's bilateral trade ties with RCEP member nations, as they may be more inclined to focus on bolstering economic ties within the bloc.
- It could potentially leave India with less scope to tap the large market that RCEP presents.
- India's decision could impact the Australia-India-Japan network in the Indo-Pacific.
- It can hinder the works on informal talks to promote a Supply Chain Resilience Initiative among the three.
- High leverage to China as RCEP will give it access to Japanese and South Korean markets, as the three countries have not yet agreed on their FTA

What are India's options now?

- India, as an original negotiating participant of RCEP, has the option of joining the agreement without having to wait 18 months as stipulated for new members.
- RCEP signatory states that if India submits a request to join the pact "in writing", it may participate in meetings as an observer prior to its accession.

- India may explore or reviews its existing bilateral FTAs with RCEP members as well as newer markets with potential for Indian exports
- India has taken up the review of the India-Japan CEPA and India-ASEAN FTA with its trading partners.
- India's interest can be served by investing strongly in negotiating bilateral agreements with the US and the EU, both currently a work in progress.

BUCHAREST NINE

In News:

Recently, the envoys rejected the Russian claim (which has been amplified by the Chinese) about the eastward “expansion” of NATO & mentioned the unjustified Russian aggression in Ukraine”.

Analysis of Background:

Bucharest Nine:

- The “Bucharest Nine” is a group of nine NATO countries in Eastern Europe that became part of the US-led military alliance after the end of the Cold War.
- The B 9 or Bucharest Format, often abbreviated as the B9, was founded on November 4, 2015, and takes its name from Bucharest, the capital of Romania.
- The group was created on the initiative of Klaus Iohannis, who has been President of Romania since 2014, and Andrzej Duda, who became President of Poland in August 2015, at the High-Level Meeting of the States from Central and Eastern Europe in Bucharest.
- The members of B9 are Romania and Poland, Hungary, Bulgaria, the Czech Republic, Slovakia, and the three Baltic republics of Estonia, Latvia, and Lithuania.
- All members of the B9 are part of the European Union (EU) and North Atlantic Treaty Organisation (NATO).
- It is also regarded as the “voice of the Eastern Flank” in the NATO alliance.
- B9 offers a platform for deepening the dialogue and consultation among the participant allied states across the members of NATO.



BIMSTEC

In News:

In March 30, BIMSTEC leaders will meet at Colombo to attend the 5th BIMSTEC summit.

Analysis of Background:

- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional multilateral organization.
- Its members lie in the littoral and adjacent areas of the Bay of Bengal constituting a contiguous regional unity.
- Out of the 7 members, Five are from South Asia – Bangladesh, Bhutan, India, Nepal, and Sri Lanka. Two are from Southeast Asia – Myanmar, Thailand.
- BIMSTEC not only connects South and Southeast Asia, but also the ecologies of the Great Himalayas and the Bay of Bengal.

- It mainly aims to create an enabling environment for rapid economic development; accelerate social progress; and promote collaboration on matters of common interest in the region.

Genesis of BIMSTEC:

- This sub-regional organization came into being in 1997 through the Bangkok Declaration.
- Initially, it was formed with four Member States with the acronym 'BIST-EC' (Bangladesh, India, Sri-Lanka and Thailand Economic Cooperation).
- It became renamed 'BIMST-EC' in 1997, following the inclusion of Myanmar.
- With the admission of Nepal and Bhutan in 2004, the name of the grouping was changed to 'Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation' (BIMSTEC).

BIMSTEC MINISTERIAL MEETING

In News:

Recently, the Minister of External Affairs of India participated in the 18th BIMSTEC Ministerial Meeting in Colombo.

Analysis of Background:

BIMSTEC:

- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organisation that was established on 06 June 1997 with the signing of the Bangkok Declaration.
- Initially known as BIST-EC (Bangladesh-India-Sri Lanka-Thailand Economic Cooperation), the organisation is now known as BIMSTEC and comprises seven Member States with the admission of Myanmar on 22 December 1997, and Bhutan and Nepal in February 2004.
- The grouping holds annual meetings hosted by member states based on alphabetical rotation. Sri Lanka is the host nation this time.

Focused Sectors:

- Being a sector-driven grouping, cooperation within BIMSTEC had initially focused on six sectors in 1997 (trade, technology, energy, transport, tourism, and fisheries) and expanded in 2008 to incorporate agriculture, public health, poverty alleviation, counter-terrorism, environment, culture, people-to-people contact, and climate change.

Purposes of BIMSTEC:

- To create an enabling environment for rapid economic development through identification and implementation of specific cooperation projects in the already agreed areas of cooperation and such other areas that may be agreed upon by the Member States.
- To accelerate the economic growth and social progress in the Bay of Bengal region through joint endeavours in a spirit of equality and partnership.
- To promote active collaboration and mutual assistance on matters of common interest in the economic, social, technical and scientific fields.
- To provide assistance to each other in the form of training and research facilities in the educational, professional and technical spheres.
- To cooperate more effectively in joint efforts that are supportive of and complementary to national development plans of the Member States which result in tangible benefits to the people in raising their living standards, including through generating employment and improving transportation and communication infrastructure.
- To cooperate in projects that can be dealt with most productively on a regional basis among the BIMSTEC Member States and that make best use of available synergies.
- To maintain peace and stability in the Bay of Bengal region through close collaboration in combating international terrorism, transnational organized crimes as well as natural disasters, climate change and communicable diseases.
- To maintain close and beneficial cooperation with existing international and regional organisations with similar aims and purposes.
- To endeavour to eradicate poverty from the Bay of Bengal region.
- To establish multidimensional connectivity, promote synergy among connectivity frameworks in the region, as a key enabler to economic integration for shared prosperity.
- To promote trade and investment as a major contributing factor for fostering economic and social development in the region.

Importance of BIMSTEC:

- The BIMSTEC region brings together 1.67 billion people and a combined GDP of around US \$ 2.88 trillion.
- The growing value of BIMSTEC and its attempt to generate synergy through collective efforts by member states can be understood, for three key reasons.
 - There is a greater appreciation of BIMSTEC's potential due to geographical contiguity, abundant natural and human resources, and rich historical linkages and a cultural heritage for promoting deeper cooperation in the region.
 - The region has the potential to become the epicentre of the Indo-Pacific idea — a place where the strategic interests of the major powers of East and South Asia intersect.
 - It serves as a bridge between two major high-growth centres of Asia — South and Southeast Asia.
 - Connectivity is essential to develop a peaceful, prosperous and sustainable Bay of Bengal region.
 - The BIMSTEC Master Plan for Transport Connectivity will provide the necessary boost to connectivity.

India and BIMSTEC:

- BIMSTEC connects South and Southeast Asia and also the ecologies of the Great Himalayas and the Bay of Bengal.
- BIMSTEC has special significance for India in a changing mental map of the region.
- India has made the Bay of Bengal integral to India's 'Neighbourhood First' and 'Act East' policies which can accelerate the process of regional integration. BIMSTEC matters for India and the region.
- BIMSTEC has huge potential as a natural platform for development cooperation in a rapidly changing geopolitical calculus and can leverage its unique position as a pivot in the Indo-Pacific region.
- India has implemented its promise to set up a Centre for Bay of Bengal Studies (CBS) at Nalanda University, Bihar for research on art, culture and other subjects related to the Bay of Bengal.
- The quest for economic growth and the development of the BIMSTEC region can be achieved with single-minded focus and cooperation among the member countries.
- In this endeavour, India has a key role in accelerating regional cooperation under the BIMSTEC framework and in making it vibrant, stronger and result-oriented.

Challenges:

- Persisting organisational weaknesses: Inconsistent levels of commitment and a general ambiguity regarding how to engage with other institutional actors have been the key reasons hampering the functioning of the organisation.
- Poor connectivity: It is troubled by poor road and rail connectivity, insufficient last-mile links and cumbersome customs and clearance procedures which hamper trade.
- Lack of Cohesion & coordination: Cohesion among the members has been difficult to achieve mainly because of the Rohingya refugee crisis which created bitterness between Myanmar and Bangladesh.
 - This affected the working of the organisation to some extent as it could not develop a common charter.
- China's financial hegemony: As China has undertaken a massive drive to finance and build infrastructure in South and Southeast Asia through the Belt and Road Initiative in almost all BIMSTEC countries, except Bhutan and India, BIMSTEC is a new battleground in the India-China battle for dominance.
- Other issues
 - The pressing challenges that confront the region include the emergence of a dead zone with zero oxygen where no fish survive; leaching of plastic from rivers as well as the Indian Ocean; destruction of natural protection against floods such as mangroves; sea erosion; growing population pressure and industrial growth in the coastal areas and consequently, huge quantities of untreated waste flow.

REASONABLE ACCOMMODATION PRINCIPLE

In News:

The Karnataka High Court has ruled in favour of the State's circular that students in educational institutions should only wear prescribed uniforms, and where no code was prescribed, they should wear "such attire that would accord with equality and integrity and would not disrupt public order".

Analysis of Background:

- The decision effectively upheld the denial of entry to students wearing the hijab. The court rejected an argument in support of permitting Muslim girls to wear headscarves that was based on the principle of 'reasonable accommodation'.
- The Karnataka High Court decision effectively upheld the denial of entry to students wearing the hijab.
- The court rejected an argument in support of permitting Muslim girls to wear headscarves that was based on the principle of 'reasonable accommodation'.

What is Reasonable Accommodation?

- 'Reasonable accommodation' is a principle that promotes equality, enables the grant of positive rights and prevents discrimination based on disability, health condition or personal belief.
- Its use is primarily in the disability rights sector.
- The provision plays a major role in addressing these barriers and thus contributes to greater workplace equality, diversity and inclusion.
- Article 2 of the UN Convention on the Rights of People with Disabilities (UNCRPD) defines:
 - A reasonable accommodation is "necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms".

What is the legal position on this in India?

- In India, the Rights of People with Disabilities Act, 2016, defines 'reasonable accommodation' as "necessary and appropriate modification and adjustments, without imposing a disproportionate or undue burden in a particular case, to ensure to persons with disabilities the enjoyment or exercise of rights equally with others".
 - The definition of 'discrimination' in Section 2(h) includes 'denial of reasonable accommodation'.
- In *Jeeja Ghosh and Another v. Union of India and Others* (2016), the Supreme Court held that Equality not only implies preventing discrimination but goes beyond in remedying discrimination against groups suffering systematic discrimination in society.
 - In concrete terms, it means embracing the notion of positive rights, affirmative action and reasonable accommodation."
- In *Vikash Kumar v. UPSC* (2021) the court ruled that benchmark disability, that is a specified disability to the extent of 40%, is related only to special reservation for the disabled in employment, but it need not be a restriction for other kinds of accommodation.
 - It also said failure to provide reasonable accommodation amounts to discrimination.

GST COUNCIL

In News:

- The GST Council may look at raising the lowest tax slab to 8 per cent, from 5 per cent, and prune the exemption list in the Goods and Services Tax regime

Analysis of Background:

GST Council:

- It is a constitutional body for making recommendations to the Union and State Government on issues related to Goods and Service Tax.
- The GST Council is chaired by the Union Finance Minister and other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.
- As per Article 279A of the amended Constitution, the GST Council which will be a joint forum of the Centre and the States.
- The Goods and Services Tax Council make recommendations to the Union and the States on—
 1. The taxes, cesses and surcharges levied by the Union, the States and the local bodies which may be subsumed in the goods and services tax;
 2. The goods and services that may be subjected to, or exempted from the goods and services tax;
 3. Model Goods and Services Tax Laws, principles of levy, apportionment of Goods and Services Tax levied on supplies in the course of inter-State trade or commerce under article 269A and the principles that govern the place of supply;
 4. The threshold limit of turnover below which goods and services may be exempted from goods and services tax;
 5. The rates including floor rates with bands of goods and services tax;
 6. Any special rate or rates for a specified period, to raise additional resources during any natural calamity or disaster;

7. Special provision with respect to the States of Arunachal Pradesh, Assam, Jammu and Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Himachal Pradesh and Uttarakhand; and any other matter relating to the goods and services tax, as the Council may decide.
8. One-half of the total number of Members of the Goods and Services Tax Council shall constitute the quorum at its meetings.
9. Every decision of the Goods and Services Tax Council shall be taken at a meeting, by a majority of not less than three-fourths of the weighted votes of the members present and voting

The Goods and Services Tax Council establish a mechanism to adjudicate any dispute,

1. between the Government of India and one or more States; or
2. between the Government of India and any State or States on one side and one or more other States on the other side; or between two or more States, arising out of the recommendations of the Council or implementation thereof.

IMPACT OF SPIKE IN OIL PRICES

In News:

The Indian rupee plummeted to 77.01 against the US dollar and the stock markets have plunged as crude oil prices flared up to a 14-year high of \$138 per barrel level amid the escalating Russia-Ukraine war.

There is a 10% increase in crude oil prices raises wholesale inflation by 9% and retail inflation by 5%.

Analysis of Background:

- The parabolic rise in crude oil prices towards multi-year highs will add to India's import bill and push up inflation.
- This price rise is prompting safe-haven flows into the dollar.
- The rupee has been falling with rising commodity prices that are raising inflation.
- [Inflationary risk is a key headwind for the rupee-dollar exchange rate.]

- Surging crude oil prices and weak GDP data appear to be creating the grounds for stagflation in India.
- Significant outflows from the domestic equities, tracking global cues, are also weighing on the domestic currency.
- But, India's significant buffer of foreign exchange reserves is providing some cushion.
- Also, the RBI is likely to intervene to curb excessive volatility.
- **Investors** - Analysts said investors should stay invested if they have a long-term investment plan, and mutual fund investors should continue their SIP plans without breaking the investment.
- It is advisable that all investors should follow a wait-and-watch strategy and avoid any fresh entry at the current juncture.

UPI123PAY: PAYMENT SOLUTION FOR FEATURE PHONE USERS

In News:

The Reserve Bank of India has launched a new Unified Payments Interface (UPI) payments solution for feature phone users dubbed 'UPI123Pay'.

Analysis of Background:

What is UPI?

- UPI is an instant real-time payment system developed by NPCI facilitating inter-bank transactions.
- The interface is regulated by the Reserve Bank of India and works by instantly transferring funds between two bank accounts on a mobile platform.

What is UPI123Pay?

- UPI '123PAY' is a three-step method to initiate and execute services for users which will work on simple phones.
- It will allow customers to use feature phones for almost all transactions except scan and pay.
- It doesn't need an internet connection for transactions. Customers have to link their bank account with feature phones to use this facility.
- Feature phone users will now be able to undertake a host of transactions based on four technology alternatives.

- They include calling an IVR (interactive voice response) number, app functionality in feature phones, missed call-based approach and also proximity sound-based payments, the RBI said.
- Such users can initiate payments to friends and family, pay utility bills, recharge the FAST Tags of their vehicles, pay mobile bills and also allow users to check account balances.
- Customers will also be able to link bank accounts, set or change UPI PINs.

Others: 'Digisaathi'

- A 24x7 helpline for digital payments has also been set up by the National Payments Corporation of India (NPCI).
- The helpline christened 'Digisaathi' will assist the callers/users with all their queries on digital payments via website and chatbot.
- Users can visit www.digisaathi.info or call on 14431 and 1800 891 3333 from their phones for their queries on digital payments and grievances.

Why UPI123Pay was created?

- UPI, which was introduced in 2016, has become one of the most used digital payments platforms in the country.
- The volume of UPI transactions has already reached ₹76 lakh crore in the current year, compared to ₹41 lakh crore in FY21.
- However, at present, efficient access to UPI is available largely via smartphones.

How will users make payments without internet?

The new UPI payments system offers users four options to make payments without internet connectivity:

- **Interactive Voice Response (IVR):** Users would be required to initiate a secured call from their feature phones to a predetermined IVR number and complete UPI on-boarding formalities to be able to start making financial transactions like money transfer, mobile recharge, EMI repayment, balance check, among others.
- **App-based functionality:** One could also install an app on feature phone through which several UPI functions, available on smartphones, will be available on their feature phone, except scan and pay feature which is currently not available.
- **Missed call facility:** The missed call facility will allow users to access their bank account and perform routine transactions such as receiving, transferring funds, regular purchases, bill payments, etc., by giving a missed call on the number

displayed at the merchant outlet. The customer will receive an incoming call to authenticate the transaction by entering UPI PIN.

- **Proximity sound-based payments:** One could utilise the proximity sound-based payments option, which uses sound waves to enable contactless, offline, and proximity data communication on any device.

How do UPI payments through sound work?

- UPI payments using sound isn't new. When Google Pay was first launched in 2017 as Tez, the app had a sound-based system of payments built in.
- Google called this 'Cash Mode' in which phones would emit ultrasonic sounds that could be used by other Tez users to accept and receive money.
- It's somewhat like Bluetooth but instead of using radio waves, it uses sound waves to transfer data from one device to the next.
- A company called ToneTag also produces audio-based point-of-sale machines.

Is payment through sound secure?

- Sound wave-based payments are meant to be contactless, but occur within a certain proximity only.
- Ultrasonic waves are outside the usual human hearing range, but such payment systems can also use audible sounds, something that US-based startup Chirp showcased back in 2011.
- Devices using such systems are encrypted, and only the devices involved can recognize the emitted waves.
- The sound waves being emitted are encrypted, meaning the receiving device will need to have decryption codes to complete the transaction.

REVIVE TAX INCREASES, STUB OUT TOBACCO PRODUCT USE

In News:

Tobacco is a silent killer in our midst that kills an estimated 1.35 million Indians every year.

Analysis of Background:

The harm caused by tobacco

- It is the use of tobacco as a result of which more than 3,500 Indians die every single day, as estimated by scientific studies.

- It also comes at a heavy cost: an annual economic burden of ₹1,77,340 crore to the country or more than 1% of India's Gross Domestic Product (GDP).

How price and taxation of tobacco matters

- Research from many countries around the world including India shows that a price increase induces people to quit or reduce tobacco use as well as discourages non-users from getting into the habit of tobacco use.
- There is overwhelming consensus within the research community that taxation is one of the most cost-effective measures to reduce demand for tobacco products.
- There has been no significant tax increase on any tobacco product for four years in a row.
- This is quite unlike the pre-GST years where the Union government and many State governments used to effect regular tax increases on tobacco products.
- As peer-reviewed studies show, the lack of tax increase over these years has made all tobacco products increasingly more affordable.
- The absence of a tax increase on tobacco has the potential to reverse the reduction in tobacco use prevalence that India saw during the last decade and now push more people into harm's way.
- It would also mean foregone tax revenues for the Government.

Way forward

- The Union Budget exercise is not the only opportunity to initiate a tax increase on tobacco products.
- The Goods and Services Tax (GST) Council could well raise either the GST rate or the compensation cess levied on tobacco products especially when the Government is looking to rationalise GST rates and increase them for certain items.
- For example, there is absolutely no public health rationale why a very harmful product such as the bidi does not have a cess levied on it under the GST while all other tobacco products attract a cess.
- GST Council meetings must strive to keep public health ahead of the interests of the tobacco industry and significantly increase either the GST rates or the GST compensation cess rates applied on all tobacco products.

RETAIL INFLATION CLIMBS TO 6.07%

In News:

India's retail inflation inched up to an eight-month high of 6.07% in February from 6.01% in January, with rural India experiencing a sharper price rise at 6.38%.

Analysis of Background:

Retail Inflation

- When we generally talk about retail inflation, it often refers to the rate of inflation based on the consumer price index (CPI).
- The CPI tracks the change in retail prices of goods and services which households purchase for their daily consumption.
- The CPI monitors retail prices at a certain level for a particular commodity; price movement of goods and services at rural, urban and all-India levels.
- The change in the price index over a period of time is referred to as CPI-based inflation, or retail inflation.

Consumer Price Index (CPI):

- It is an index measuring retail inflation in the economy by collecting the change in prices of most common goods and services used by consumers.
- 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.
- The base year for CPI is 2012.
- To calculate CPI, multiply 100 to the fraction of the cost price of the current period and the base period.

Significance of CPI

- Generally, CPI is used as a macroeconomic indicator of inflation, as a tool by the central bank and government for inflation targeting and for inspecting price stability, and as deflator in the national accounts.
- CPI also helps understand the real value of salaries, wages, and pensions, the purchasing power of the nation's currency, and regulating rates.
- CPI, one of the most important statistics to ascertain economic health, is generally based on the weighted average of the prices of commodities.
- It basically gives an idea of the cost of the standard of living.

DOLLAR–RUPEE SWAP AUCTION

In News:

The Reserve Bank of India (RBI) conducted a \$ 5 billion dollar-rupee swap auction as part of its liquidity management initiative. This led to infusion of dollars and sucking out of the rupee from the financial system.

Analysis of Background:

What is a Dollar–Rupee Swap auction?

- It's a forex tool whereby the central bank uses its currency to buy another currency or vice versa.
- It is the tool used by the RBI to infuse/suck out the liquidity in the economy and manages the currency pressure. It is operated through an exchange between the US dollar and the rupee.

How it works?

- Under dollar rupee sell/buy swap auction, Banks shall buy US dollars from the Reserve Bank of India.
- Against these INR rupees, Reserve Bank of India gives US Dollar to the banks.
- Also, RBI immediately gets into an opposite deal with banks promising to sell dollars at a later date (say after some years).

- In this way, RBI tries to increase the US dollar liquidity in the market as there is a mismatch.

Why do Central Banks engage in it?

- Forex swaps help in liquidity management. It is a tool to infuse/suck out the liquidity in the economy.
- It also, helps in keeping the currency rates in check.
- Example: A dollar–rupee buy/sell swap injects INR into the banking system while sucking out the dollars, and the reverse happens in a sell/buy swap.

Impact on rupee and bonds:

- Forex swaps are intended for liquidity management. Therefore, their impact on currency is only incidental.
- Amidst global tension(Ukraine-Russia war) and hardening crude oil prices, it's important to keep INR under control. The RBI resorting to selling USD in two tranches will keep a check on Rupee's volatility and help curb its depreciation to some extent.

For the bond market, the exercise may have a pronounced impact.

- Bonds yields are already on an incline.
- Liquidity intervention through swaps will leave room for the central bank to buy bonds when needed.
- Consequently, the strategy will contain bond yields.

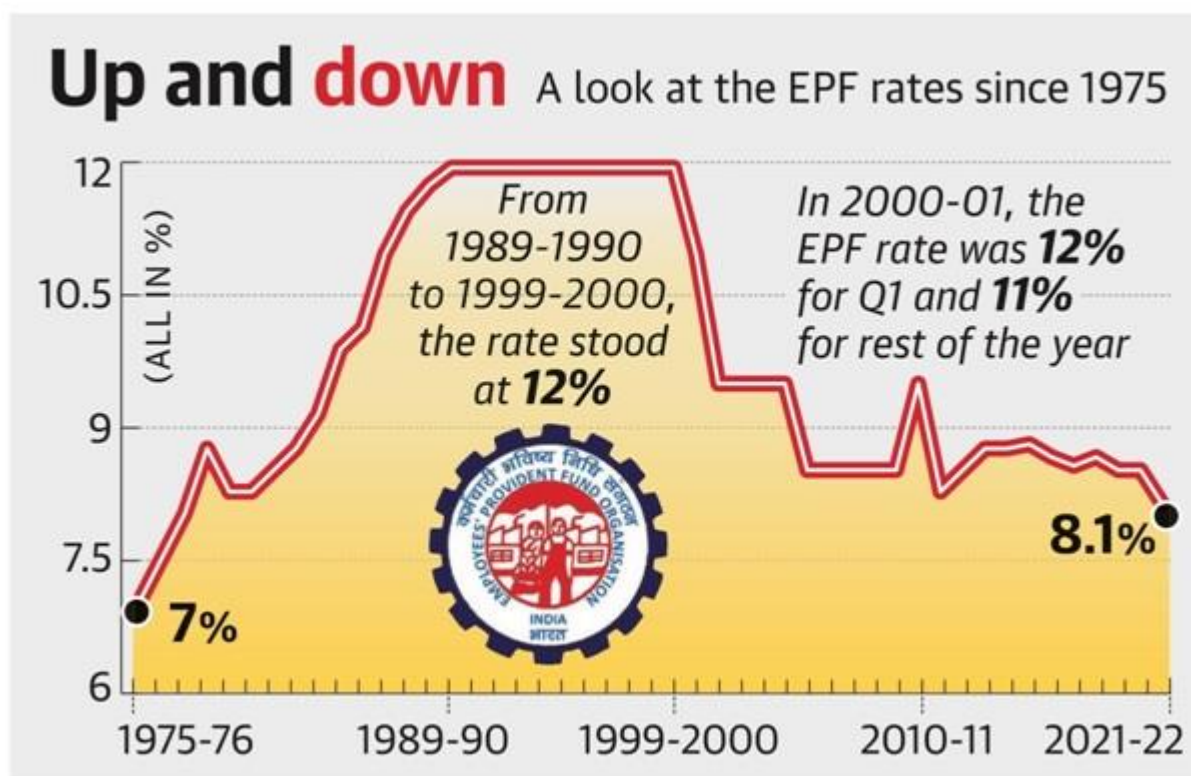
EPFO

In News:

The return on workers' retirement savings parked with the Employees' EPFO has been slashed to 8.1% for 2021-22 from the 8.5% rate credited to members' accounts in the past two years.

Analysis of Background:

- The cut in the EPF rate, at a time when inflation is resurging, attracted criticism from the central trade union representatives on the Board who called for the 8.5% return to be retained.
- Employee representatives had also opposed the last rate cut on EPF savings from 8.65% in 2018-19 to 8.5% in 2019-20.



About EPFO:

- Employees' Provident Fund Organisation is a government organization that manages provident fund and pension accounts of member employees and implements the Employees' Provident Fund and Miscellaneous Provisions Act, 1952.
- It is administered by the Ministry of Labour & Employment, Government of India.
- It is one of the World's largest Social Security Organisations in terms of clientele and the volume of financial transactions undertaken.
- It operates three schemes –
- EPF Scheme 1952,

- Pension Scheme 1995 (EPS) and
- Insurance Scheme 1976 (EDLI).

Employees Pension Scheme (EPS):

- It is a social security scheme that was launched in 1995.
- The scheme, provided by EPFO, makes provisions for pensions for the employees in the organized sector after the retirement at the age of 58 years.
- Employees who are members of EPF automatically become members of EPS.
- Both employer and employee contribute 12% of employee's monthly salary (basic wages plus dearness allowance) to the Employees' Provident Fund (EPF) scheme.
- EPF scheme is mandatory for employees who draw a basic wage of Rs. 15,000 per month.

FOREIGN CONTRIBUTION REGULATION ACT

In News:

The Union Home Ministry has placed a US based NGO on its watchlist following an investigation that foreign contributions it sent were being used for climate awareness campaigns, an activity not permissible under the FCRA [Foreign Contribution (Regulation) Act].

About Foreign Contribution Regulation Act (FCRA)

- The FCRA regulates foreign donations and ensures that such contributions do not adversely affect internal security.
- First enacted in 1976, it was amended in 2010 when a slew of new measures was adopted to regulate foreign donations.
- The FCRA is applicable to all associations, groups and NGOs which intend to receive foreign donations.
- It is mandatory for all such NGOs to register themselves under the FCRA.
- The registration is initially valid for five years and it can be renewed subsequently if they comply with all norms.

FCRA Created for,

- The FCRA sought to consolidate the acceptance and utilisation of foreign contribution or foreign hospitality by individuals, associations or companies.

- It sought to prohibit such contributions from being used for activities detrimental to national interest.

The recent amendment:

- The FCRA was amended in September 2020 to introduce some new restrictions.
- The Government says it did so because it found that many recipients were wanting in compliance with provisions relating to filing of annual returns and maintenance of accounts.
- Many did not utilise the funds received for the intended objectives.
- It claimed that the annual inflow as foreign contributions almost doubled between 2010 and 2019.
- The FCRA registration of 19,000 organisations was cancelled and, in some cases, prosecution was also initiated.

PATENT RIGHTS ON COVID-19 JABS MAY BE WAIVED

In News:

The World Trade Organization chief has hailed a breakthrough between the EU, the United States, India and South Africa on waiving intellectual property rights on Covid-19 vaccines.

Analysis of Background:

What is a Patent:

- A patent is an exclusive right granted for an invention.
- In other words, a patent is an exclusive right to a product or a process that generally provides a new way of doing something, or offers a new technical solution to a problem.
- To get a patent, technical information about the invention must be disclosed to the public in a patent application.
- The patent owner may give permission to, or license, other parties to use the invention on mutually agreed terms.
- The owner may also sell the right to the invention to someone else, who will then become the new owner of the patent.

- Once a patent expires, the protection ends, and an invention enters the public domain; that is, anyone can commercially exploit the invention without infringing the patent.

Terms of Patent

- Patents may be **granted for inventions** in any field of technology, from an everyday kitchen utensil to a nanotechnology chip.
- An invention can be a product – such as a chemical compound, or a process, for example – or a process for producing a specific chemical compound.
- Patent protection is **granted for a limited period, generally 20 years** from the filing date of the application.
- Patents are **territorial rights**. In general, the exclusive rights are only applicable in the country or region in which a patent has been filed and granted, in accordance with the law of that country or region.

TAX ON VIRTUAL DIGITAL ASSET

In News

- The government said that infrastructure costs incurred in the mining of cryptocurrencies or any virtual digital assets will not be allowed as deduction under the Income-tax Act.
- Also, losses incurred from one kind of virtual digital assets (VDAs) cannot be set off against the gains from any transaction involving another VDA while computing tax.

Analysis of Background:

Cryptocurrency:

- A cryptocurrency is a digital or virtual currency that is meant to be a medium of exchange. Cryptography is a method of using encryption and decryption to secure communication in the presence of third parties with ill intent.
- It is quite similar to real-world currency, except it does not have any physical embodiment, and it uses cryptography to work.

- Because cryptocurrencies operate independently and in a decentralized manner, without a bank or a central authority, new units can be added only after certain conditions are met.
- For example, with Bitcoin, only after a block has been added to the blockchain will the miner be rewarded with bitcoins, and this is the only way new bitcoins can be generated. The limit for bitcoins is 21 million; after this, no more bitcoins will be produced.

Cryptocurrency Mining:

- Mining is the process of generating new coins and verifying new transactions on a blockchain, which involves a lot of processing power and computers on the network.
- To put it simply, the miners maintain and secure the blockchain. In return, they are rewarded in cryptocurrencies for the mining.

Taxation:

- Union Budget 2022 has proposed that the gains from the sale of virtual digital assets will attract a flat 30 per cent tax going forward. The virtual digital currency will include crypto-currencies and non-fungible tokens (NFTs).
- The loss arising from the sale of any virtual assets cannot be set off against any other income.
- A TDS of 1 per cent will be levied on payments made on transfer of the digital assets.
- If one gifts crypto-currencies or any other virtual digital asset, it will be taxed at the same rate at the hands of the recipient.
- Here, definition of virtual digital asset, is broad enough to cover emerging digital assets including NFT, assets in metaverse, digital currencies, tokens, etc. Basically, any information or code or number or token not being Indian currency or foreign currency is generated through cryptographic means.

- Infrastructure costs incurred in mining of VDA (eg. crypto assets) will not be treated as cost of acquisition as the same will be in the nature of capital expenditure which is not allowable as deduction.

RBI INNOVATION HUB

In News:

RBI Governor inaugurated the Bengaluru based RBIH, which has been set up as a Section 8 company under Companies Act, 2013 with an initial capital of Rs. 100 Cr.

Analysis of Background:

RBI Innovation Hub (RBIH):

- It is an investment for the future aimed at facilitating an environment that accelerates innovation across the financial sector.
- It is expected to build an ecosystem for development of prototypes, patents and proofs of concept and promote cross-thinking spanning regulatory domains and national boundaries.
- Its underlying focus is to promote access to financial services and products for the low-income population in the country.
- The Hub has plans of identifying and mentoring start-ups having maximum potential.
- It would have continuous engagement with industry, innovators, academia and related stakeholders to nurture and leverage beneficial innovation in the financial sector that can deliver customized products for those at the bottom of the pyramid.
- It would collaborate with various Govt Ministries/ Departments/ Academia to identify problem statements in different domains and explore potential solutions.
- On the whole, it serves as an epicentre for exchange of views and knowledge sharing, while also remaining focused on delivering clear cut objective within reasonable timelines.

TOPIC: ENVIRONMENT

IPCC RELEASES PART OF THE SIXTH ASSESSMENT REPORT

In News:

The Intergovernmental Panel on Climate Change (IPCC) released the second part of its sixth assessment report. The first part was released in 2021.

Analysis of Background:

What is IPCC?

- The IPCC, an intergovernmental body was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP).
- It was later endorsed by the UN General Assembly. Membership is open to all members of the WMO and UN.
- The IPCC produces reports that contribute to the work of the UN Framework Convention on Climate Change (UNFCCC), the main international treaty on climate change.
- The objective of the UNFCCC is to “stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system.”

What are the Assessment Reports?

- Every few years, the IPCC produces assessment reports that are the most comprehensive scientific evaluations of the state of earth’s climate.
- Instead, it asks scientists from around the world to go through all the relevant scientific literature related to climate change and draw up the logical conclusions.
- So far, five assessment reports have been produced, the first one being released in 1990.
- The IPCC’s Fifth Assessment Report was a critical scientific input into the UNFCCC’s Paris Agreement in 2015.

Highlights of the recent report

- **Rapidly advancing climate change:** From the melting of the Greenland ice sheet to the destruction of coral reefs, climate related impacts are hitting the world at the high end much more quickly than previously assessed by the IPCC.

- **Limitations of technology:** The use of some technologies designed to limit warming or reduce CO2 could make matters worse rather than better.
- **Impact of urbanization:** While large cities are hotspots for climate impacts, they also offer a real opportunity to avoid the worst impacts of warming.
- **Limited opportunity for mitigation:** The report has warned the opportunity for action will only last for the rest of this decade.

Some projections of the first part of 6th Report

Apart from incorporating the latest available scientific evidence, the Sixth Assessment Report is also attempting to provide more actionable information to help governments take policy decisions.

- **Regional focus:** It is expected that this report would likely state what the scenarios for sea-level rise in the Bay of Bengal region is, not just what the average sea-level rise across the world is likely to be.
- **Rise of extreme events:** There is expected to be bigger focus on extreme weather events, like the ones we have seen in the last few weeks.
- **Vulnerabilities of urban areas:** Densely populated mega-cities are supposed to be among the most vulnerable to impacts of climate change. The report is expected to present specific scenarios the climate change impacts on cities and large urban populations, and also implications for key infrastructure.
- **Synergy of climate action is needed:** IPCC is expected to present a more integrated understanding of the situation, cross-link evidence and discuss trade-offs between different options or pathways, and also likely to cover social implications of climate change action by countries.

Here is what the previous assessment reports had said:

PREVIOUS IPCC ASSESSMENT REPORTS: HIGHLIGHTS

FIRST REPORT, 1990

- Emissions resulting from human activities are increasing atmospheric concentrations of greenhouse gases
- Global temperatures have risen by 0.3°–0.6°C in 100 years. In business-as-usual scenario, likely to increase by 2°C compared to pre-industrial levels by 2025, and 4°C by 2100
- Sea-level likely to rise 65 cm by 2100
- Report formed basis for negotiation of UN Framework Convention on Climate Change in 1992

SECOND REPORT, 1995

- Revises projected rise in global temperatures to 3°C by 2100, and sea-level rise to 50 cm
- The scientific underpinning for Kyoto Protocol in 1997

THIRD REPORT, 2001

- Revises predicted temperature rise to 1.4°–5.8°C by 2100 compared to 1990
- Rainfall to increase; sea-level likely to rise by 80 cm from 1990 by 2100.
- Frequency, intensity and duration of extreme weather events to increase
- Presents new and stronger evidence

to suggest most of warming attributable to human activities

FOURTH REPORT, 2007

- Greenhouse gas emissions rose by 70% between 1970 and 2004
- Atmospheric concentrations of CO₂ in 2005 (379 ppm) the highest in 650,000 years
- In worst-case scenario, global temperatures could rise 4.5°C by 2100 from pre-industrial levels; sea-levels could be 60 cm higher than in 1990
- Wins 2007 Peace Nobel for IPCC
- Report is the scientific input for the 2009 Copenhagen climate meeting

FIFTH REPORT, 2014

- Temperature rise by 2100 could be 4.8°C from pre-industrial times
- Atmospheric concentrations of CO₂, CH₄ and N₂O “unprecedented” in last 800,000 years
- More frequent and longer heat waves “virtually certain”
- “Large fraction of species” face extinction
- Forms scientific basis for negotiations of Paris Agreement in 2015

First Assessment Report (1990)

- Emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases.
- Global temperatures have risen by 0.3 to 0.6 degree Celsius in last 100 years. In business-as-usual scenario, temperatures likely to increase by 2 degree Celsius compared to pre-industrial levels by 2025, and 4 degree Celsius by 2100
- Sea-level likely to rise by 65 cm by 2100

This report formed the basis for negotiation of the UN Framework Convention on Climate Change in 1992.

Second Assessment Report (1995)

- Revises projected rise in global temperatures to 3 degree Celsius above pre-industrial levels by 2100, sea-level rise to 50 cm, in light of more evidence.
- Global rise in temperature by 0.3 to 0.6 degree Celsius since late 19th century, “unlikely to be entirely natural in origin”.

This report was the scientific underpinning for Kyoto Protocol in 1997.

Third Assessment Report (2001)

- Revises projected rise in global temperatures to 1.4 to 5.8 degree Celsius by 2100 compared to 1990. Projected rate of warming unprecedented in last 10,000 years.
- Rainfall will increase on an average. The report also predicts that by 2100, the sea level is likely to rise by as much as 80 cm from 1990 levels. Glaciers to retreat during the 21st century.
- Frequency, intensity and duration of extreme weather events to increase.
- Presents new and stronger evidence to suggest that global warming is mostly attributable to human activities.

Fourth Assessment Report (2007)

- Greenhouse gas emissions increased by 70 per cent between 1970 and 2004.
- Atmospheric concentrations of CO₂ in 2005 (379 ppm) the maximum in 650,000 years.
- In worst case scenario, global temperatures could rise 4.5 degree Celsius by 2100 from pre-industrial levels. Sea-levels could be 60 cm higher than 1990 levels.

The report won the 2007 Nobel Peace Prize for IPCC and was the scientific input for the 2009 Copenhagen climate meeting.

Fifth Assessment Report (2014)

- More than half the temperature rise since 1950 attributable to human activities.
- Atmospheric concentrations of carbon dioxide, methane and nitrous oxide “unprecedented” in the last 800,000 years.
- Rise in global temperatures by 2100 could be as high as 4.8 degree Celsius from pre-industrial times
- More frequent and longer heat waves “virtually certain”.

- “Large fraction of species” face extinction. Food security would be undermined.

This report formed the scientific basis for negotiations of the Paris Agreement in 2015.

UNFCCC

- The UNFCCC established an international environmental treaty to combat “dangerous human interference with the climate system”, in part by stabilizing greenhouse gas concentrations in the atmosphere.
- It was signed by 154 states at the UN Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro from 3 to 14 June 1992.

DUGONG CONSERVATION RESERVE

In News:

Marine biologists have welcomed the Tamil Nadu government’s to establish Dugong conservation reserve.

Analysis of Background:

Dugong conservation reserve:

- India’s first Dugong conservation reserve will be built in Tamil Nadu’s Palk Bay for the conservation of Dugong.
- It would be established in the Gulf of Mannar, Palk Bay between India and Sri Lanka, for the conservation of the animals.
- The reserve will spread over an area of 500 km in Palk Bay on the southeast coast of Tamil Nadu.
 - Palk Bay is a semi-enclosed shallow waterbody with a water depth maximum of 13 meters.
- Need for establishing marine reserve:

- Dugongs are on the verge of extinction, as in the Andaman and Nicobar Islands their population is less than 100.
- Both in the Gulf of Mannar and the Gulf of Kutch, there are very few sporadic records.

Dugong: The sea cow:

- Dugong or the sea cow is the State animal of Andaman & Nicobar Islands.
- This endangered marine species survive on seagrass and other aquatic vegetation found in the area.
- They are marine mammals and have to surface every four minutes to breathe.
- It is the only herbivorous mammal that is strictly marine and is the only extant species in the family Dugongidae.
- Dugongs are usually about three-meter long and weigh about 400 kg.
- Dugongs have an expanded head and trunk-like upper lip.
- Elephants are considered to be their closest relatives. However, unlike dolphins and other cetaceans, sea cows have two nostrils and no dorsal fin.
- Conservation status:
 - Vulnerable under IUCN red list.
 - Schedule I animal under the Wildlife (Protection) Act, 1972.
- Distributed in shallow tropical waters in the Indo-Pacific region, in India, they are found in the Gulf of Kutch, Gulf of Mannar, Palk Bay, and Andaman & Nicobar Islands.

Causes of extinction:

- Reasons for the extinction are: slow breeding rate, fishing, and the loss of habitat.
- Dugongs are long-living animals, that have a low reproductive rate, long generation time, and high investment in each offspring.
- Due to natural and human-induced activities, the natural habitat of the animal is on a risk. The herbivorous mammal feeds on seagrass, which is at a loss.
- Human activities such as riding of speed-boats causes death of the animal due to boat and propellor strikes. Further, habitat loss is also attributed to the increase in

conversion of coastal forests to banana, areca nut, and coconut plantations and high boat traffic.

- Natural factors are extreme weather events such as cyclones and high energy tidal storms may also contribute to the loss of seagrasses in the region.
- Gill-net fishing: Dugongs are also known to suffer due to accidental entanglement and drowning in gill-nets. Fishing activities around the Indian, Andaman, Nicobar, and Sri Lankan coasts include gill netting and dynamite fishing.

How the population can thrive?

- The conservation reserve can promote growth and save the vulnerable species from the verge of extinction.
- Conservation measures like the proposed conservation area can help revive the sea cow population.
- Simultaneous effort towards seagrass meadow restoration, reduction of dugong mortalities, and community participation in dugong conservation can help in helping the dugong population recover.
- Creating awareness among the people, involving the local communities.

LAND PROTESTS OVER DEOCHA PACHAMI COAL BLOCK

In News:

The West Bengal government's ambitious Deocha Pachami coal block mining project in Birbhum district has run into hurdles over land acquisition and other issues.

Analysis of Background:

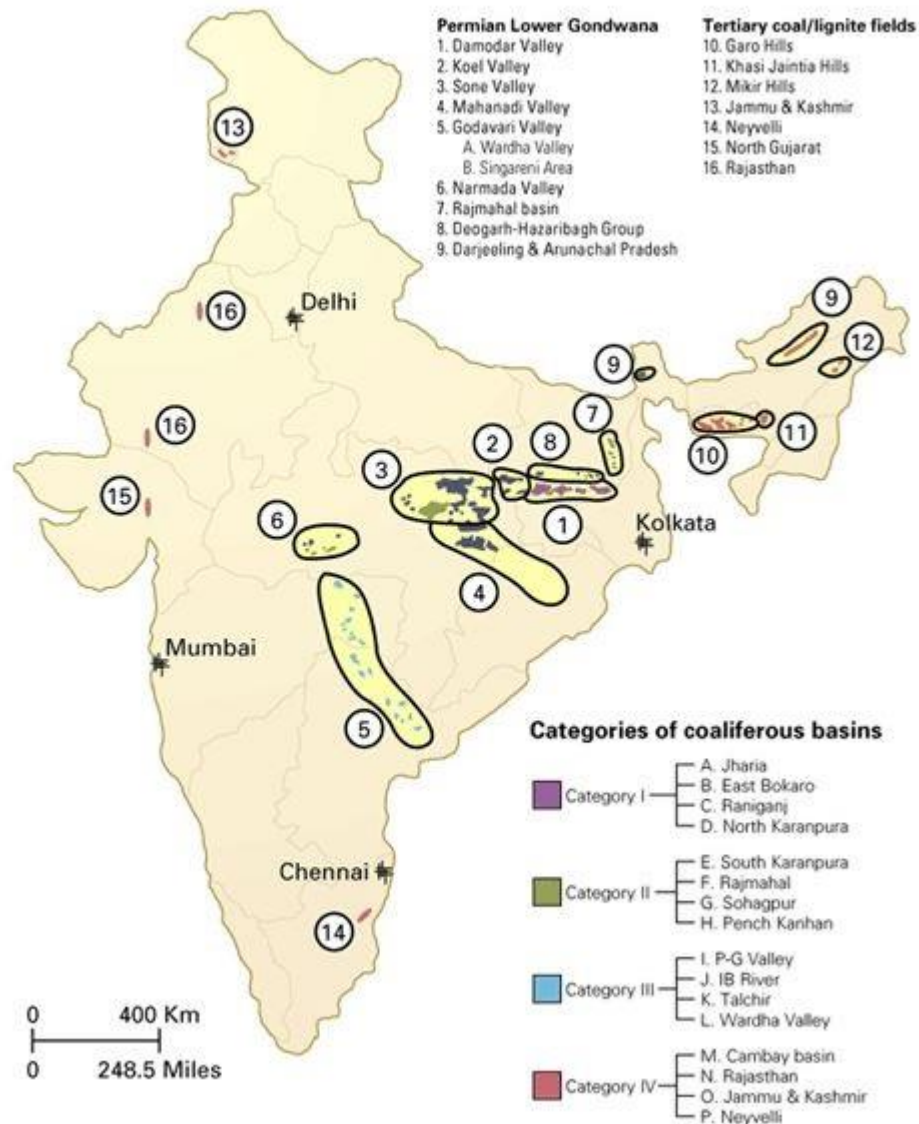
Deocha Pachami Coal Block

- The State government is planning to start mining at the Deocha Pachami coal block, considered to be the largest coal block in the country with reserves of around 1,198 million tonnes of coal.
- It is spread over an area of 12.31 sq. km, which is around 3,400 acres.
- There are around 12 villages in the project area with a population of over 21,000, comprising Scheduled Castes and Scheduled Tribes.

Why are locals upset?

- The project is facing protests over land acquisition of which a significant part is forest land.
- Locals, mostly Santhal tribals, have close affinity with the land, with forests and waterways, and rely on it for their needs.
- The tribals were harassed and had been arrested under false and serious charges for protesting.
- Also, the project details have not yet been made public; and the environment clearance is awaited.

INDIA'S COAL BASINS AND FIELDS



NORTHERN RIVER TERRAPIN (BATAGUR BASKA)

In News:

Recently, forest officials installed GPS transmitters on the northern river terrapin in the Indian Sundarbans. However, In just six weeks after the release, at least three of the 10 turtles of the critically endangered Batagur baska species have travelled hundreds of kilometres and are now in Bangladesh.

Analysis of Background:

About:

- The northern river terrapin (Batagur baska) is a species of riverine turtle native to Southeast Asia.
- It is one of Asia's largest freshwater and brackwater turtles, reaching a carapace length of up to 60 cm and a maximum weight of 18 kg. Its carapace is moderately depressed.
- The species is currently found in Bangladesh and India(in the Sunderbans), Cambodia, Indonesia and Malaysia.
- It is strongly aquatic but uses terrestrial nesting sites, frequenting the tidal areas of estuaries, large rivers, and mangrove forests.
- It is classified Critically Endangered by the International Union for Conservation of Nature (IUCN) Red List and considered extinct in much of its former range, principally due to exploitation as a food item (including egg harvesting).



GLYCOSMIS ALBICARPA

In News:

A team of scientists from the Botanical Survey of India (BSI) have discovered a new gin berry species from the Kanyakumari Wildlife Sanctuary in Tamil Nadu.

Analysis of Background:

- The species, *Glycosmis albicarpa*, with a distinct large white fruit, is endemic to the southern Western Ghats. The species belongs to the Orange family Rutaceae.
- Many of the related plants of these taxonomic groups are being utilised for their medicinal values and food. Most commonly related species of these plants are collected from the wild, mainly for local use as food and medicine.
- Berries of the *Glycosmis* species have the unique characteristic of 'gin aroma' and gained in popularity as an edible fruit. The species is also a larval host plant for butterflies like other species of *Glycosmis*.
- The species, an evergreen small tree, was found as undergrowth in the Tirunelveli semi-evergreen forests at the Panagudi forest section of the wildlife sanctuary.

WATER MANAGEMENT NEEDS A HYDRO-SOCIAL APPROACH

In News:

The Global Water System Project, which was launched in 2003 as a joint initiative of the Earth System Science Partnership (ESSP) and Global Environmental Change (GEC) programme, epitomises global concern about the human-induced transformation of fresh water and its impact on the earth system and society.

Analysis of Background:

Valuation of water

- It is globally estimated that the gap between demand for and supply of fresh water may reach up to 40% by 2030 if present practices continue.
- SDG 6: The formation of the 2030 Water Resource Group in 2008, at the instance of the World Economic Forum, and the World Bank's promotion of the group's activity since 2018, is in recognition of this problem and to help achieve the Sustainable Development Goal (SDG) on water availability and sanitation for all by 2030 (SDG 6).
- The latest UN World Water Development Report, 2021, titled 'Valuing Water', has laid stress on the proper valuation of water by considering five interrelated

perspectives: water sources; water infrastructure; water services; water as an input to production and socio-economic development, and socio-cultural values of water.

Need for hydro-social cycle approach

- Designing a comprehensive mix of divergent views about water along with ecological and environmental issues held by stakeholder groups is necessary.
- In this context, a hydro-social cycle approach provides an appropriate framework.
- It repositions the natural hydrological cycle in a human-nature interactive structure and considers water and society as part of a historical and relational-dialectical process.
- The anthropogenic factors directly influencing a freshwater system are the engineering of river channels, irrigation and other consumptive use of water, widespread land use/land cover change, change in an aquatic habitat, and point and non-point source pollution affecting water quality.

The intra- and inter-basin transfer (IBT) of water

- IBT is a major hydrological intervention to rectify the imbalance in water availability due to naturally prevailing unequal distribution of water resources within a given territory.
- There are several IBT initiatives across the world.
- The National River Linking Project of India is one of those under construction.
- Based on a multi-country case study analysis, the World Wildlife Fund/World Wide Fund for Nature (2009) has suggested a cautious approach and the necessity to adhere to sustainability principles set out by the World Commission on Dams while taking up IBT projects.

Issues with assumptions, use and management of freshwater resources in India

Contestation on concept of the surplus and deficit basin

- The basic premise of IBT is to export water from the surplus basin to a deficit basin.
- However, there is contestation on the concept of the surplus and deficit basin itself as the exercise is substantially hydrological.
- Besides this, rainfall in many surplus basins has been reported as declining.
- The status of the surplus basin may alter if these issues are considered.

Low capacity utilisation

- There is concern about the present capacity utilisation of water resources created in the country.
- By 2016, India created an irrigation potential for 112 million hectares, but the gross irrigated area was 93 million hectares.
- There is a 19% gap, which is more in the case of canal irrigation.
- In 1950-51, canal irrigation used to contribute 40% of net irrigated area, but by 2014-15, the net irrigated area under canal irrigation came down to less than 24%.
- Groundwater irrigation now covers 62.8% of net irrigated area.
- Low efficiency of irrigation projects: The average water use efficiency of irrigation projects in India is only 38% against 50%-60% in the case of developed countries.
- More water consumption for crops: Even at the crop level we consume more water than the global average.
- Rice and wheat, the two principal crops accounting for more than 75% of agricultural production use 2,850 m³/tonnes and 1,654 m³/tonnes of water, respectively, against the global average of 2,291m³/tonnes and 1,334m³/tonnes in the same order.
- The agriculture sector uses a little over 90% of total water use in India.
- And in industrial plants, consumption is 2 times to 3.5 times higher per unit of production of similar plants in other countries.
- Similarly, the domestic sector experiences a 30% to 40% loss of water due to leakage.

Other issues

- Apart from the inefficient use of water in all sectors, there is also a reduction in natural storage capacity **and** deterioration in catchment efficiency.

Way forward

- The issues are source sustainability, renovation and maintenance of traditional water harvesting structures, grey water management infrastructure, groundwater recharge, increasing water use efficiency, and reuse of water.
- The axiom that today's water system is co-evolving and the challenges are mainly management and governance has been globally well accepted.
- It is important to include less predictable variables, revise binary ways of thinking of 'either or', and involve non-state actors in decision-making processes.

REVIVING THE INLAND WATER TRANSPORT SYSTEM FOR THE NORTHEAST

In News:

- Month after setting sail on the Ganga from Patna, a vessel carrying 200 metric tonnes of food grains for the Food Corporation of India (FCI), docked at Guwahati's Pandu port on the southern bank of the Brahmaputra.
- The occasion is believed to have taken inland water transport, on two of India's largest river systems, to the future.

Analysis of Background:

Why is a Ganga-Brahmaputra cargo vessel in focus?

- There is nothing unusual about a cargo vessel setting sail from or docking at any river port.
- This has rekindled hope for the inland water transport system which the landlocked northeast depended on heavily before India's independence in 1947.

Inland water service: A necessity for the NE

- Seamless cargo transportation has been a necessity for the northeast.
- Around Independence, Assam's per capita income was the highest in the country.
- This was primarily because of access for its tea, timber, coal and oil industries to seaports on the Bay of Bengal via the Brahmaputra and the Barak River (southern Assam) systems.
- Ferry services continued sporadically after 1947 but stopped after the 1965 war with Pakistan, as Bangladesh used to be East Pakistan then.
- The scenario changed after the river routes were cut off and rail and road through the "Chicken's Neck", a narrow strip in West Bengal, became costlier alternatives.
- The start of cargo movement through the Indo-Bangladesh Protocol (IBP) route is going to provide the business community a viable, economic and ecological alternative.

How did the water cargo service through Bangladesh come about?

- The resumption of cargo transport service through the waterways in Bangladesh has come at a cost since the Protocol on Inland Water Transit and Trade was signed between the two countries.
- India has invested 80% of ₹305.84 crore to improve the navigability of the two stretches of the IBP (Indo-Bangladesh Protocol) routes — Sirajganj-Daikhowa and Ashuganj-Zakiganj in Bangladesh.

- The seven-year dredging project on these two stretches till 2026 is expected to yield seamless navigation to the north-eastern region.
- With this, the distance between NW1 and NW2 will reduce by almost 1,000 km once the IBP routes are cleared for navigation.

Policy boosts to IWs

- The Government has undertaken the Jal Marg Vikas project with an investment of ₹4,600-crore to augment the capacity of NW1 for sustainable movement of vessels weighing up to 2,000 tonnes.
- Sailors who made the cargo trips possible have had difficulties steering clear of fishing nets and angry fishermen in Bangladesh.
- These hiccups will get sorted out with time.

Why go for IWT?

- Inland Water Transport (IWT) is a fuel-efficient, environment friendly and cost effective mode of transport having potential to supplement the over-burdened rail and congested roads.
- It is a boon where road transport is least feasible.

CHILIKA LAKE

In News:

The Odisha government has proposed to ban movement of mechanised fishing boats on the banks of Chilika lake — an important bird area (IBA).

Analysis of Background:

- Chilika Lake is a brackish water lagoon, spread over the Puri, Khurda and Ganjam districts of Odisha.
- Chilika Lake is a shallow bar-built estuary with large areas of mudflats.
- Location: It is located at the mouth of the Daya River, flowing into the Bay of Bengal, covering an area of over 1,100 km².

DEEP OCEAN MISSION

In News:

India will soon scour the ocean bed to unravel the mysteries of the origins of life as scientists are set to travel up to 6,000 m below the sea surface under a deep ocean mission.

Analysis of Background:

- The focus of the mission will be on deep-sea mining, ocean climate change advisory services, underwater vehicles and underwater robotics related technologies.
- The Ministry of Earth Sciences (MoES) will be the nodal Ministry implementing this multi-institutional mission.

Key Components of the mission:

- A manned submersible will be developed to carry three people to a depth of 6,000 metres in the ocean with a suite of scientific sensors and tools. An Integrated Mining System will be developed for mining polymetallic nodules at those depths in the central Indian Ocean.
- Development of Ocean Climate Change Advisory Services.
- Development of a component for searching deep sea flora and fauna, including microbes, and studying ways to sustainably utilise them.
- It will also have a component to explore and identify potential sources of hydrothermal minerals that are sources of precious metals formed from the earth's crust along the Indian Ocean mid-oceanic ridges.
- It has a component for studying and preparing detailed engineering design for offshore Ocean Thermal Energy Conversion (OTEC) powered desalination plants.

Significance:

- The mission will give a boost to efforts to explore India's vast Exclusive Economic Zone and Continental Shelf.
- The plan will enable India to develop capabilities to exploit resources in the Central Indian Ocean Basin (CIOB).

GREAT BARRIER REEF SUFFERS SEVERE CORAL BLEACHING

In News:

Australia's Great Barrier Reef is suffering widespread and severe coral bleaching due to high ocean temperatures two years after a mass bleaching event, a government agency said on Friday. The report by the Great Barrier Reef Marine Authority, which manages the world's largest coral reef ecosystem, comes three days before a United Nations delegation is due to assess whether the reef's World Heritage listing should be downgraded due to the ravages of climate change.

Analysis of Background:

About Great Barrier Reef:

- It is the world's most extensive and spectacular coral reef ecosystem composed of over 2,900 individual reefs and 900 islands.
- The reef is located in the Coral Sea (North-East Coast), off the coast of Queensland, Australia.
- It can be seen from outer space and is the world's biggest single structure made by living organisms.
- This reef structure is composed of and built by billions of tiny organisms, known as coral polyps.
- They are made up of genetically identical organisms called polyps, which are tiny, soft-bodied organisms. At their base is a hard, protective limestone skeleton called a calicle, which forms the structure of coral reefs.
- These polyps have microscopic algae called zooxanthellae living within their tissues. The corals and algae have a mutualistic (symbiotic) relationship.
- It was selected as a World Heritage Site in 1981.

Coral Reef:

Largest Coral Reef Area:

- Indonesia has the largest coral reef area in the world.
- India, Maldives, Sri Lanka and Chagos have the maximum coral reefs in South Asia.
- The Great Barrier Reef of the Queensland coast of Australia is the largest aggregation of coral reefs.

Coral Reef Areas in India:

- India has four coral reef areas: Gulf of Mannar, Andaman and Nicobar Islands, Lakshadweep islands and the Gulf of Kutch.

Benefits:

- Protect humanity from natural calamities.
- Provide revenue and employment through tourism and recreation.
- Provide habitats for fishes, starfish and sea anemones.

Threats:

- Due to anthropogenic activities such as coastal development, destructive fishing methods and pollution from domestic and industrial sewage.
- Due to increased sedimentation, over-exploitation and recurring cyclones.
- Coral diseases such as black band and white band due to infectious microorganisms introduced by the human population that live on the coastal regions.

Role of Mangroves:

- Mangrove forests play a crucial role in helping the coral reef system by acting as filters and providing protection from cyclones, storms and tsunamis.



MASS CORAL BLEACHING

In News:

Recently, the management authority of Australia's Great Barrier Reef confirmed that the reef is experiencing a mass coral bleaching event.

Other News:

Degradation and loss of coral reefs can affect about 4.5 million people in southeast Asia and the Indian Ocean, according to the Intergovernmental Panel on Climate Change (IPCC)'s Sixth Assessment Report on Impacts, Adaptation and Vulnerability.

Analysis of Background:

Coral Reefs:

- **About:**

- Corals are marine invertebrates or animals not possessing a spine.
- Each coral is called a **polyp** and thousands of such polyps live together to form a colony, which grows when polyps multiply to make copies of themselves.

- **Symbiotic Relationship:**

- Corals share a symbiotic relationship with single-celled algae called **zooxanthellae**.
 - The zooxanthellae also give corals their bright colour.
 - The algae provides the coral with food and nutrients, which they make through photosynthesis, using the sun's light.
 - In turn, the corals give the algae a home and key nutrients.

- **Types:**

- **Hard coral:**

- They are also called hermatypic or 'reef building' corals extract calcium carbonate (also found in limestone) from the seawater to build hard, white coral exoskeletons.

- **Soft coral:**

- Soft coral polyps, however, borrow their appearance from plants, attach themselves to such skeletons and older skeletons built by their ancestors.
- They also add their own skeletons to the hard structure over the years and these growing multiplying structures gradually form coral reefs.

- They are the **largest living structures** on the planet.
- **Great Barrier Reef:**
 - Australia's Great Barrier Reef is the world's largest reef system stretching across 2,300 km.
 - It hosts 400 different types of coral, gives shelter to 1,500 species of fish and 4,000 types of mollusc.

Significance of Corals:

- **Supports Marine Biodiversity:**
 - Coral reefs support over 25% of marine biodiversity, including fish, turtles and lobsters; even as they only take up 1% of the seafloor.
- **Fishing Industry:**
 - The marine life supported by reefs further fuels global fishing industries.
 - Even giant clams and whales depend on the reefs to live.
- **Tourism & Employment:**
 - Besides, coral reef systems generate \$2.7 trillion in annual economic value through goods and service trade and tourism.
 - In Australia, the Barrier Reef, in pre-COVID times, generated \$4.6 billion annually through tourism and employed over 60,000 people including divers and guides.
- **Protection from Storm:**
 - Coral reefs also provide protection from storm waves.

Coral Bleaching:

- **Process:**
 - Under stressed conditions, the zooxanthellae or food-producing algae living inside coral polyps start producing **reactive oxygen species**, which are not beneficial to the corals.
 - So, the corals **expel the colour-giving zooxanthellae** from their polyps, which exposes their pale white exoskeleton, giving the corals a bleached appearance.
 - This also **ends the symbiotic relationship** that helps the corals to survive and grow.
- **Causes:**
 - **Increased ocean temperature** caused by climate change is the leading cause of coral bleaching.

- Storm generated precipitation can rapidly dilute ocean water and **runoff can carry pollutants** — these can bleach near-shore corals.
- When temperatures are high, **high solar irradiance** contributes to bleaching in shallow-water corals.
- Exposure to the air during **extreme low tides** can cause bleaching in shallow corals.
- **Mass Bleaching events:**
 - The first mass bleaching event occurred in 1998 when the El Niño weather pattern caused sea surfaces in the Pacific Ocean to heat up. This event caused 8% of the world's coral to die.
 - The second event took place in 2002. ?
- **Declining Corals:**
 - A 2021 study by the Global Coral Reef Monitoring Network (GCRMN), which is supported by the United Nations, showed that 14% of the world's coral on reefs had been lost between 2009 and 2018, with most of the loss attributed to coral bleaching.

CLEAN ENERGY MUST USE THE BATTERY OF A CIRCULAR ECONOMY

In News:

- In the recent budget speech, the Finance Minister had emphasised the **role of cleaner technologies in India's future economic growth** while also noting the importance of **transitioning to a circular economy** from the existing linear one.
- In this respect, the article analyses the significance of adopting a circular economy in the renewable energy sector and makes some recommendations in this direction.

Analysis of Background:

Circular Economy:

- Refers to an economy which works on reducing waste generation and extends lifecycle of products.
- It does so via Reusing, Recycling, Repairing, Leasing, Sharing etc.
- This is done for as long as possible as per the product and its utility.

Waste Management: India's Potential

- Waste Management Sector forms an essential part of Circular Economy.
- As per International Renewable Energy Agency (IRENA), India's total installed solar capacity will generate about 325 Kilotonnes of waste by 2030.
- JMK Research and Analytics says that Battery recycling market in India can grow up to 23 GWh by 2030.
- Circular economy would also insulate these sectors from any shocks caused due to external factors.
- India on its road to achieve Net Neutrality by 2070 would need 5640 GW of Solar and 1792 GW of Wind Energy as its contributor.
- Reducing of environmental harm, generation of jobs, social upliftment, energy security, etc. are all added benefits.

Challenges for Waste Management Sector

- Informal nature of waste management in India poses many risks such as low job quality, hazardous working conditions, no social security etc.
- Traditional Methods are non-sustainable as they would eventually run out. Eg. Landfills.
- Lack of financial avenues hurt its expansion and transformation.
- Lack of trained and skilled workers in this field.
- Ecological damage is being cause by the incorrect waste disposal methods.

Way forward

- Present rules shall be revised in order to bring the clean energy in their ambit.
- Clear roles and targets must be defined for the various stakeholders in this sector.
- Dumping and Burning should be banned because of its non-sustainable nature and environmental risks.
- Investments should be made in the recycling technologies.
- Higher Efficiency and less environmental damage shall be the aim.
- Partnering with global firms and technology transfer can help boost domestic capabilities.
- Recycled Metals and Non-metals can be used as raw materials for domestic industries.
- Lower interest rates for this sector can spur entrepreneurs.

- Green certificates can be issued which can be traded to raise money.
- Procurement norms can be modified to make a market for the renewed products by mandatory procurements.
- Union and State Governments can come with stringent norms regarding quality control.

Waste Management Sector would form the backbone of the Circular Economy. Informal nature and various stakeholders pose multiple challenges that need to be addressed. India has the potential to be the exemplary circular economy which it needs to harness for furthering its economic growth.

GOLDEN LANGUR

In News:

A recent study by scientists has suggested a significant decline in the habitat of Golden Langur an endangered primate species that's distributed in the trans-boundary region of Bhutan and India.

Analysis of Background:

About Golden langur:

- Gee's golden langur, also known as simply the golden langur, is an Old World monkey.
- Endemic species: It is found only in Assam and Bhutan. In India, fragmented and isolated populations of the species are distributed in the Chirang, Kokrajhar, Dhubri and Bongaigaon districts of Assam.

Conservation status:

- It is a Schedule-I species under the Wildlife Protection Act of 1972.
- It is listed as among the world's 25 most endangered primates.
- It is listed as "rare species" in the Red Data Book of International Union for Conservation of Nature.
- It is listed under the Appendix I of CITES.

Reasons for decline in habitat:

- Range contraction, several forest fragments due to man-animal conflicts.

- Lack of conservation initiatives except for efforts by a few locals and non-governmental agencies.
- Enhanced human footprints in the habitat of the species.
- Human-induced climate change.

GANGA RIVER CLEANING

In News:

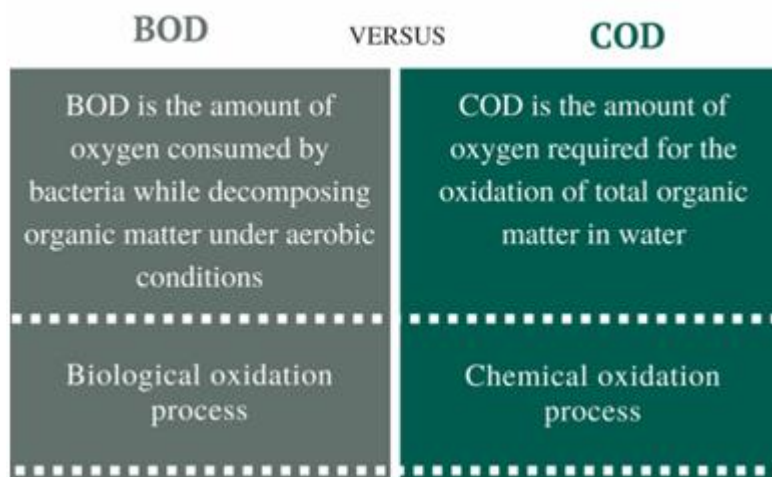
Minister of State for Water Resources, said in the Rajya Sabha that the water quality of the river Ganga is clean enough for bathing and capable for supporting the river ecosystem for almost the entire stretch of the river.

Dissolved Oxygen (DO), an indicator of river health is within the “acceptable limits” of “bathing water quality criteria”.

Analysis of Background:

Findings of Central Pollution Control Board Report (2018)

- CPCB had identified 351 polluted stretches on 323 rivers based on monitoring results of 521 rivers in terms of Bio-chemical Oxygen Demand (BOD).
- It pointed out four polluted stretches on the main stem of river Ganga.
- There are five categories ranked 1 to 5, with 1 the most polluted and 5 the least.
- 2021 updated report findings:
- None of the stretches of the Ganga stretches were now in Priority Category I to IV
- Only two stretches are in Priority Category V with Biological Oxygen Demand (BOD)
- A comparison of median data of water quality parameters such as DO, Bio-chemical Oxygen Demand (BOD) and Faecal Coliform (FC) from 2014 and 2021 showed improvement.



Measures taken by government to clean Ganga:

- Based on the assessment of water quality, various measures are being taken both by the Centre and the States to prevent pollution of rivers and drains out-falling into them.
- River cleaning is a continuous process and the Central government assists the State governments and urban local bodies through schemes like 'Namami Gange' and National River Conservation Plan (NRCP).
- Ganga Action Plan: It was, launched in 1986 by the then Prime Minister Rajeev Gandhi, with the main objective of pollution abatement of the river Ganga.
- Bhuvan Ganga Portal: This App developed by ISRO enables public to collect and report information on various pollution sources that affects the water quality of river Ganga.
- Clean Ganga Fund: It was set up in 2015. The fund invites voluntary contributions from residents of the country and Non-Resident Indian (NRIs) / Person of Indian Origin (PIO) and others.
- Ban on Waste Disposal: The National Green Tribunal banned the disposal of any waste in the Ganga in the year 2017.

National Mission for Clean Ganga (NMCG)

- NMCG has been focusing on youth as part of its outreach and public communications efforts as they are the impellers of change.
- NMCG has tied-up with Diamond Toons to develop and distribute comics, e-comics and animated videos.
- The content will be designed with the objective of bringing about behavioral change amongst children towards Ganga and other rivers.
- The total estimated budget for the project is Rs. 2.26 Cr.
- Chacha Chaudhary can be useful in ground-level activation for Ganga rejuvenation.
- Initially, the comics will be launched in Hindi, English and Bengali.
- Namami Gange Programme'
- It is an Integrated Conservation Mission, approved as 'Flagship Programme' by the Union Government in June 2014 with budget outlay of 20,000 Crore to accomplish the twin objectives of effective abatement of pollution, conservation and rejuvenation of National River Ganga.
- Main pillars of the Namami Gange Programme are:-
 - Sewerage Treatment Infrastructure
 - River-Front Development
 - River-Surface Cleaning
 - Bio-Diversity
 - Afforestation
 - Public Awareness
 - Industrial Effluent Monitoring
 - Ganga Gram

MERCURY POLLUTION

In News:

At the second round of the fourth Meeting of the Conference of the Parties to the Minamata Convention on Mercury (COP-4.2), Government of Indonesia as well as the United Nations have sought support and commitment from parties to the Minamata Convention for a Bali Declaration on combatting Global Illegal Trade of Mercury.

Analysis of Background:

The Minamata Convention on Mercury

- Named after the Japanese city of Minamata, the convention aimed at protecting the human health and the environment from the effects of mercury. The naming the treaty after the Japanese city was symbolic as it undergone severe incident of mercury poisoning.
- Controlling the anthropogenic releases of mercury throughout its lifecycle has been a key factor in shaping the obligations under the Convention.
- It was adopted in 2013 and entered into force August 16, 2017.
- Under it 137 parties or countries from Africa, Asia-Pacific, eastern Europe, Latin America and the Caribbean, western Europe and other regions have been working together to
 - control the supply and trade of mercury
 - reduce the use
 - emissions and release of mercury
 - raise public awareness and
 - build necessary institutional capacity since 2017.
- It is a powerful tool to rid the planet of toxic substances. It is essential to tackle the triple planetary crisis of climate change, nature and biodiversity loss, and pollution and waste.

Need to adopt this declaration:

- Increase in global illegal mercury trade, notably in the artisanal and gold mining (ASGM) sector prompted Indonesia to propose a non-binding Bali Declaration on combating it.
- According to the International Union for Conservation of Nature estimates, globally, 10-20 million people work in the ASGM sector and many of them use mercury on a daily basis. As a result, 838 tonnes of mercury was being released into the air in 2015 by ASGM alone, making the sector the largest contributor to anthropogenic mercury emissions.

Mercury Pollution

- Mercury is a naturally occurring element that is found in air, water and soil.

Types of Sources

- Natural sources of mercury include volcanic eruptions and emissions from the ocean.
- Anthropogenic (human-caused) emissions include mercury that is released from fuels or raw materials, or from uses in products or industrial processes.
- It occurs naturally in the earth's crust, but human activities, such as mining and fossil fuel combustion, have led to widespread global mercury pollution.
- Mercury emitted into the air eventually settles into water or onto land where it can be washed into water.
- Once deposited, certain microorganisms can change it into methylmercury, a highly toxic form that builds up in fish, shellfish and animals that eat fish. Most human exposure to mercury is from eating fish and shellfish contaminated with methylmercury.
- Major contributors: Globally, artisanal and small-scale gold mining (ASGM) is the largest source of anthropogenic mercury emissions (37.7%), followed by stationary combustion of coal (21%). Other large sources of emissions are non-ferrous metals production (15%) and cement production (11%) (UNEP report)
- **Effects:**
 - Exposure to mercury threatens our health, with many often irreversible toxic effects. Developing fetuses and young children are most at risk. Mercury pollution also harms wildlife and ecosystems.
 - The inhalation of mercury vapour can produce harmful effects on the nervous, digestive and immune systems, lungs and kidneys, and may be fatal. The inorganic salts of mercury are corrosive to the skin, eyes and gastrointestinal tract, and may induce kidney toxicity if ingested.

NSAIDS THREAT TO VULTURE POPULATION

In News:

Recently, the Bombay Natural History Society (BNHS) wrote a letter urging the Union Ministry of Environment, Forest and Climate Change (MoEF&CC) to ban the use of three veterinary drugs known to kill vultures in the country.

Analysis of Background:

- The letter warns that the rampant use of the three non-steroidal anti-inflammatory drugs (NSAIDs) threatens to undo the Centre's two decades of work to arrest the dwindling vulture population in the wild.
- Surprisingly, the three drugs—aceclofenac, ketoprofen and nimesulide—were introduced as alternatives to diclofenac
- India banned it in 2006 for animal use because it caused widespread vulture deaths.
- India has slowed down vulture mortality rate, but not stabilised the population.
- Vultures were quite common till the 1980s. Currently, eight species in the country face extinction.
- The country's vulture population crashed from over 40,000 in 2003 to 18,645 in 2015, as per the last vulture census conducted by intergovernmental body Bird Life International.

About Vultures:

- Vultures are one of the 22 species of large carrion-eating birds **that** live predominantly **in** the tropics and subtropics.
- India is home to nine species of vultures and these are :

Sr. No.	Name of the Vulture Species	IUCN status	Pictorial Representation
1.	Oriental White-backed Vulture (Gyps Bengalensis)	Critically Endangered	
2.	Slender-billed Vulture (Gyps Tenuirostris)	Critically Endangered	
3.	Long-billed Vulture (Gyps Indicus)	Critically Endangered	
4.	Egyptian Vulture (Neophron Percnopterus)	Endangered	
5.	Red-Headed Vulture (Sarcogyps Calvus)	Critically Endangered	
6.	Indian Griffon Vulture (Gyps Fulvus)	Least Concerned	
7.	Himalayan Griffon (Gyps Himalayensis)	Near Threatened	
8.	Cinereous Vulture (Aegypius Monachus)	Near Threatened	
9.	Bearded Vulture or Lammergeier (Gypaetus Barbatus)	Near Threatened	

Vulture Population in India:

- The decline in vulture populations came into limelight in the mid-90s.
- India has lost 99 per cent of the population of the three species — Oriental White-Backed Vulture, Long-billed Vulture and Slender-billed Vulture.
- The Red-headed and the Egyptian Vulture populations have also crashed by 91 percent and 80 per cent respectively.

VANISHING VULTURES

High mortality hinders India's plans of stabilising its vulture population

53% drop in India's vulture population since 2003



The fatal four

DICLOFENAC	ACECLOFENAC	NIMESULIDE	KETOPROFEN
was banned for veterinary use in 2006 to arrest the shrinking vulture population	gets converted into diclofenac within hours of administration to cattle	causes visceral gout and renal failure in vultures within 30 hours of ingestion	causes death in vultures within 48 hour after ingestion due to heightened toxicity levels



Major habitation loss

307
VULTURE
DEATHS

BIKANER RAJASTHAN, 2019, 2020
REASONS: Use of non-steroidal anti-inflammatory drugs (NSAIDs) for treating animals; electrocution

210

RAIGAD MAHARASHTRA, 2010
REASON: Habitat loss due to Cyclone Nisarga

120

JAISALMER RAJASTHAN, 2021
REASONS: Use of non-steroidal NSAIDs for treating animals; electrocution

100

KAMRUP ASSAM, 2022
REASON: Consumption of pesticide-laced carcasses kept to control stray dog population

4
SURENDRANAGAR GUJARAT, 2019

REASON: Use of NSAIDs for treating animals

Importance of Vultures:

- They act an important function as nature's garbage collectors and help to keep the environment clean of waste.
- Vultures are carcass feeders & play a significant role in the natural mechanism of infection control.
- Despite feeding on infected carcasses, vultures do not get infected. The acids in their stomach are potent enough to kill the pathogen.
- They remove bacteria and other poisons in the environment quickly, consuming carcasses before they decay.
- The birds also prevent the contamination of water sources, especially in the wild.
 - When animals die near watering holes, there is an imminent danger of contamination resulting in a quick spread of infections and mass death.
- Vultures are critically important to the Parsi community. The community leaves its dead atop the Towers of Silence to be consumed by vultures.
 - Today, the Parsis may have turned to other methods, including solar accelerators to hasten the decomposition of the dead, but none has proved as efficient or as hygienic as vultures.

Threats :

- Use of Diclofenac: It was found that vultures, which are exposed to diclofenac after feeding on the carcass of dead farm animals, died of kidney failure.
- Lack of Nesting Trees : Cutting down trees for agriculture, urbanisation and firewood purposes, a cause of habitat degradation is a threat to the nesting sites of vultures.
 - Fire and grazing also decrease the safe roosting and nesting sites of vultures.
- Electrocution by power lines
- Food Dearth and Contaminated Food
- Pesticide poisoning also threatens vultures across the country.
- Train collision was a major reason for vulture deaths in Jaisalmer and Bikaner.
 - Stray cows would often forage near the railway tracks and get hit by trains. Then vultures would come to eat the carcasses and get run over by trains
- Human activities and traffic on the roads is a cause of concern as vultures may feed on roads making them prone to accidents

Conservation efforts:

- The Centre in 2020 launched a Vulture Action Plan 2020-25 for the conservation of vultures in the country.
- The Drugs Controller General of India has banned the veterinary use of diclofenac.
- The Central Zoo Authority (CZA) and Bombay Natural History Society (BNHS) also established the Vulture Conservation Breeding Programme.
- The MoEFCC released the Action Plan for Vulture Conservation 2006 with the Drugs Controller General of India (DCGI) banning the veterinary use of diclofenac in the same year.
- The country is also a signatory to the Convention on Migratory Species' Multi-species Action Plan to Conserve African-Eurasian Vultures, which recognises NSAIDS as a major threat to vultures in India. Still, little seems to have moved on the ground.
- In 2015, Tamil Nadu became the first state to ban the veterinary use of ketoprofen in Nilgiri, Erode and Coimbatore districts.

RUBBER CULTIVATION IN INDIA

In News:

A plan by the Rubber Board to develop rubber plantations in an area of two lakh hectares across the seven northeastern States in a span of five years starting from 2021-22 has unleashed pent-up demand among the rubber nurseries in the State.

Analysis of Background:

Geographical conditions:

- Rubber is a tropical tree.
- It requires high temperature throughout the year – ranging between 20°-35°C or average monthly mean of 27°C.
- Less than 20°C temperature is detrimental.
- Rubber also requires heavy rainfall.
- The annual average rainfall of not less than 200 cm is optimum. Rubber tree thrives well when the distribution of rainfall is uniformly high all over the year.

- Deep, friable, well-drained soils are ideal as they promote root development, and acidic soils are also suitable.
- Thailand is the highest rubber producer in the world, which produced 31.29 per cent of world production. Indonesia is the second largest producer.
- In the world production of natural rubber, India ranks Fourth.
- Traditional rubber-growing states comprising Kerala and Tamil Nadu account for 81% of production.

SARISKA TIGER RESERVE

In News:

A massive fire has broken out in the Sariska Tiger Reserve and Air Force helicopters equipped with water sprays are battling to bring it under control.

Analysis of Background:

About Sariska Tiger Reserve (STR)

- It represents a tiger habitat spread over the world's oldest mountain range- the Aravallis.
- It is situated in Alwar ,Rajasthan.
- It is a resilient ecosystem with a high prey density, and has the unique distinction of successfully reintroducing the tiger after its local extinction
- It contains mountains, grasslands, dry deciduous forests and cliffs which span over 800 square kilometres.
- **Flora and Fauna:**
 - Currently home to numerous animals apart from tigers, the reserve showcases nature in its best form.
 - Animals like jungle cats, rhesus macaque, sambhar, chital, wild boar, etc., are found here.
 - Sariska also holds a variety of bird species including some winter migrants. It has a very high density of peafowl as well as grey francolin.
 - The vegetation of Sariska corresponds to Northern tropical dry deciduous forests and Northern Tropical Thorn forest

- *Anogeissus pendula* is the dominant tree species covering over 40 per cent area of the forest.

ONE-HORNED RHINO

In News:

The Rhino population in Kaziranga National Park of Assam increases by 200 according to the latest census. The population was 2413 in 2018 now it is 2613 which is a huge achievement for the future of Assam Wildlife in the country.

Analysis of Background:

About Indian One-Horned Rhino:

- The greater one-horned rhino (or “Indian rhino”) is the largest of the rhino species.
- **Physical Appearance:**
 - Indian Rhinos are brownish-grey in colour and are hairless.
 - They have knobby skin that appears to be armour-plated. A single horn sits on top of their snout, and their upper lip is semi-prehensile.
 - The greater one-horned rhino is identified by a single black horn about 8-25 inches long and a grey-brown hide with skin folds, which gives it an armour-plated appearance.
- **Diet :** They primarily graze, with a diet consisting almost entirely of grasses as well as leaves, branches of shrubs and trees, fruit, and aquatic plants.
- **Habitat:**
 - It is confined to the tall grasslands and forests in the foothills of the Himalayas.
 - The Great one-horned rhino is commonly found in Nepal, Bhutan, Pakistan and in Assam, India.
- **Conservation Status:** Greater One-Horned Rhinos (*Rhinoceros unicornis*): Vulnerable.

Conservation Efforts by India:

- The Ministry of Environment and Forests (MoEF) has launched a National Conservation Strategy for Indian One-Horned Rhino and the conservation initiatives

for rhino has also enriched the grassland management which helps in reducing the negative impacts of climate change through carbon sequestration.

- New Delhi Declaration on Asian Rhinos 2019: Signed by India, Bhutan, Nepal, Indonesia and Malaysia to conserve and protect the rhinos.
- Project to create DNA profiles of all rhinos by the Ministry of Environment Forest and Climate Change (MoEFCC).
- Indian Rhino Vision 2020: It is a unique programme where the government partnered international, national and local organisations for the conservation of the rhinos.
 - Under it, Manas has received a total of 22 rhinos from other protected areas.
- The Indian and Nepalese governments have taken major steps toward Indian Rhinoceros conservation with the help of the World Wildlife Fund (WWF).

MICROPLASTICS IN HUMAN BLOOD

In News:

- Tiny particles of plastics, called Microplastics, were detected in human blood for the first time, according to a study by a group of researchers in the Netherlands.
- The researchers adapted existing techniques to detect and analyze particles that were as small as 700 nanometers in size.
- They targeted five common plastics, including Polyethylene Terephthalate (PET), and polyethylene.

Analysis of Background:

About Micro-Plastic:

- They are defined as plastics less than five millimeters in diameter—smaller in diameter than the standard pearl used in jewelry. It can be harmful to our ocean and aquatic life.
- There are two categories of microplastics: primary and secondary.

• Classification:

- **Primary Microplastics:** They are tiny particles designed for commercial use and microfibers shed from clothing and other textiles.

- E.g. Microbeads found in personal care products, plastic pellets and plastic fibres.
- **Secondary Microplastics:** They are formed from the breakdown of larger plastics such as water bottles.
 - This breakdown is caused by exposure to environmental factors, mainly the sun's radiation and ocean waves.

Concerns related to Microplastics:

- Microplastics can latch on to the outer membranes of red blood cells and may limit their ability to transport oxygen.
- The particles have also been found in the placentas of pregnant women, and in pregnant rats they pass rapidly through the lungs into the hearts, brains and other organs of the foetuses.
- Microplastics cause damage to human cells in the laboratory and air pollution particles are already known to enter the body and cause millions of early deaths a year.
- In general, babies and young children are more vulnerable to chemical and particle exposure.

Initiatives to Tackle Microplastics:

- **Elimination of Single Use Plastic:** In 2019, the Prime Minister of India pledged to eliminate all **single-use plastic in the country by 2022**, with an immediate ban in urban Delhi.
- **Important Rules:** **Plastic Waste Management Rules, 2016** state that every local body has to be responsible for setting up infrastructure for segregation, collection, processing, and disposal of plastic waste.
- **Plastic Waste Management (Amendment) Rules 2018** introduced the concept of **Extended Producer Responsibility (EPR)**.
- **Un-Plastic Collective: Un-Plastic Collective (UPC)** is a voluntary initiative launched by the UNEP-India, Confederation of Indian Industry and WWF-India.
- **Global Partnership on Marine Litter (GPML):** The GPML was launched at the **Earth Summit** in 2012 in response to a request set out in the Manila Declaration.

- **London Convention, 1972:** The **1972 Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter** was signed to control all sources of marine pollution and prevent pollution of the sea through regulation of dumping into the sea of waste materials.
- **Plastic Pacts:** The **Plastics Pacts** are business-led initiatives to transform the plastics packaging value chain for all formats and products.

TOPIC: SCIENCE & TECH

NORTH KOREA SATELLITE LAUNCH

In News:

North Korea appears preparing to launch a reconnaissance satellite. North Korea conducted a record number of missile launches in January, and has suggested it could resume testing of nuclear weapons or its longest-range intercontinental ballistic missiles (ICBMs) for the first time since 2017.

Analysis of Background:

- The United States and its allies called North Korea's latest tests of satellite systems clear violations of United Nations Security Council resolutions, which prohibit any development of technology applicable to North Korea's ballistic missile programmes.
- The satellite launch was condemned by governments in the United States and South Korea as a disguised test of ballistic missile technology capable of striking the continental United States.

History of launches:

- Since 1998 North Korea has launched five satellites under The Kwangmyŏngsŏng program, of which two appeared to have been successfully placed in orbit, including its last in 2016.

Dual-use technology:

- "Dual-use" refers to technology that can be used for both peaceful and military aims.
- Dual-use can also refer to any technology which can satisfy more than one goal at any given time.

- Thus, expensive technologies that would otherwise benefit only civilian commercial interests can also be used to serve military purposes if they are not otherwise engaged.

Examples of dual-use goods and technology include

- global positioning satellites,
- missiles,
- nuclear technology,
- chemical and biological tools,
- night vision technology,
- thermal imaging,
- some models of drones,
- aluminum pipes with precise specifications or certain kinds of ball bearings.

Wassenaar Arrangement:

- The Wassenaar Arrangement is a voluntary export control regime. The Arrangement, formally established in July 1996, has 42 members who exchange information on transfers of conventional weapons and dual-use goods and technologies.
- The Wassenaar Arrangement has been established in order to contribute to regional and international security and stability, by promoting transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies
- Wassenaar Arrangement's Secretariat is in Vienna, Austria.
- It has 42 member states comprising mostly NATO and EU states.
- North Korea is not a part of Wassenaar Agreement.
- It is a successor to the Coordinating Committee for Multilateral Export Controls (COCOM) from the Cold War era.
- All Plenary decisions are taken by consensus.
- India was inducted to the Wassenaar Arrangement on 7 December, 2017 as the 42nd member.

CRISPR PATENT RULING

In News:

The U.S. patent office has awarded key patent rights related to the CRISPR–Cas9 gene editing tool to the Broad Institute team led by molecular biologist Feng Zhang. It had been locked in a battle with another team that includes biochemist Jennifer Doudna and microbiologist Emmanuelle Charpentier who shared a Nobel Prize for the discovery in 2020.

Analysis of Background:

About CRISPR Cas-9

- CRISPR (an acronym for clustered regularly interspaced short palindromic repeats) is a family of DNA sequences found in the genomes of prokaryotic organisms such as bacteria and archaea.
- These sequences are derived from DNA fragments of bacteriophages that had previously infected the prokaryote.
- They are used to detect and destroy DNA from similar bacteriophages during subsequent infections.
- Hence these sequences play a key role in the antiviral (i.e. anti-phage) defense system of prokaryotes and provide a form of acquired immunity.
- CRISPR are found in approximately 50% of sequenced bacterial genomes and nearly 90% of sequenced archaea.
- Cas9 (or “CRISPR-associated protein 9”) is an enzyme that uses CRISPR sequences as a guide to recognize and cleave specific strands of DNA that are complementary to the CRISPR sequence.
- Cas9 enzymes together with CRISPR sequences form the basis of a technology known as CRISPR-Cas9 that can be used to edit genes within organisms.
- CRISPR-CAS9 is a technology that allows scientists to essentially cut-and-paste DNA, raising hope of genetic fixes for disease.
- The development of the CRISPR-Cas9 genome editing technique was recognized by the Nobel Prize in Chemistry in 2020 which was awarded to Emmanuelle Charpentier and Jennifer Doudna.

KINZHAL ADVANCED HYPERSONIC MISSILE

In News:

Russia has used its newest hypersonic missile called 'Kinzhal' to destroy a weapons storage site in Ukraine's western region. It is the first use of the nuclear-capable advanced weapons system in the Ukraine war.

Analysis of Background:

Kinzhal Missile:

- Kinzhal means 'dagger'. It is a nuclear-capable air-launched ballistic missile that flies at 10 times the speed of sound and can overcome air-defence systems.
- Range: Approximately 1,500-2,000km and can carry a payload of 480 kg.
- Following the launch, the Kinzhal rapidly accelerates to Mach 4 (4,900 km/h), and may reach speeds of up to Mach 10 (12,350 km/hr).

Hypersonic Weapon:

- The term "hypersonic" describes any speed faster than five times that of sound, which is roughly 760 miles (1,220 kilometres) per hour at sea level, meaning these weapons can travel at least 3,800 miles per hour.
- At hypersonic speeds, the air molecules around the flight vehicle start to change, breaking apart or gaining a charge in a process called ionization.
- This subjects the hypersonic vehicle to "tremendous" stresses as it pushes through the atmosphere.

Significance:

- Unlike ballistic missiles, hypersonic weapons don't follow a predetermined, arched trajectory and can manoeuvre on the way to their destination.
- They are fast, low-flying, and highly manoeuvrable weapons designed to be too quick and agile for traditional missile defence systems to detect in time.

Types of hypersonic weapons:

- There are two main types of these weapons — glide vehicles and cruise missiles.
- Most of the attention is focused on the former, which are launched from a rocket before gliding to their target, because of the challenges of achieving hypersonic propulsion of missiles.

- The missiles have engines called scramjets that use the air's oxygen and produce thrust during their flight, allowing them to cruise at a steady speed and altitude.

Who has these weapons?

- US, China and Russia have the most advanced capabilities.
- Several other countries are investigating the technology, including India, Japan, Australia, France, Germany and North Korea, which claims to have tested a hypersonic missile.
- In fact, India is also closing in on having such weapons in its arsenal.
- Earlier, India successfully tested its hypersonic technology demonstrator vehicle (HSTDV), powered by a scramjet engine.
 - The HSTDV will serve as a crucial building block in the development of long-range hypersonic weapons, which will take at least another four to five years to become a reality.

NASA'S ARTEMIS PROGRAM

In News:

Recently, the National Aeronautics and Space Administration (NASA) rolled out its Artemis I moon mission to the launchpad for testing at **the** Kennedy Space Centre in Florida, United States.

Analysis of Background:

Artemis Mission:

- NASA's Artemis mission is touted as the next generation of lunar exploration, and is named after the twin sister of Apollo from Greek mythology.
 - Artemis is also the goddess of the moon.
 - It is the first in a series of increasingly complex missions that will enable human exploration to the Moon and Mars.

- With the Artemis programme, NASA aims to land humans on the moon by 2024, and it also plans to land the first woman and first person of colour on the moon.
- NASA will establish an Artemis Base Camp on the surface and a gateway (the lunar outpost around the Moon) in lunar orbit to aid exploration by robots and astronauts.
- The gateway is a critical component of NASA's sustainable lunar operations and will serve as a multi-purpose outpost orbiting the moon.
- Other space agencies are also involved in the Artemis programme.
 - Canadian Space Agency has committed to providing advanced robotics for the gateway,
 - The European Space Agency will provide the International Habitat and the ESPRIT module, which will deliver additional communications capabilities among other things.
 - The Japan Aerospace Exploration Agency plans to contribute habitation components and logistics resupply.

Key Points of Artemis I Mission:

- **Artemis I, formerly Exploration Mission-1,** will be the first integrated flight test of NASA's Deep Space Exploration Systems.
 - **Orion spacecraft:** Orion spacecraft is going to remain in space without docking to a space station, longer than any ship for astronauts has ever done before.
 - **Space Launch System (SLS) rocket:** It is the most powerful rocket in the world — and travels 2,80,000 miles from the earth for over four to six weeks during the course of the mission.
 - Newly upgraded Exploration Ground Systems at Kennedy Space Centre in Cape Canaveral, Florida.
- It is an uncrewed space mission where the spacecraft will launch on an SLS rocket.
- The primary operating goal of the mission is to assure a safe crew module entry, descent, splashdown, and recovery.

- SLS and Orion under Artemis I will be launched from the Kennedy Space Centre in Florida, U.S. in the summer of 2022.
- The mission will end with the Orion spacecraft's ability to return safely to the earth.

THE GIST

Artemis I is an uncrewed space mission where the spacecraft will launch on SLS – the most powerful rocket in the world – and travel 2,80,000 miles from the earth for over four to six weeks.

NASA will a gateway in the lunar orbit to aid exploration by robots and astronauts. It is touted as a critical component of NASA's sustainable lunar operations and will serve as a multi-purpose outpost orbiting the moon.

The learnings from the Artemis programme will be utilised to send the first astronauts to Mars.

Future missions in the Artemis programme:

- The second flight under the programme will have crew on board and will test Orion's critical systems with humans onboard.
- Eventually, the learnings from the Artemis programme will be utilised to send the first astronauts to Mars.
- NASA plans on using the lunar orbit to gain the necessary experience to extend human exploration of space farther into the solar system.

History of Moon Exploration:

- In 1959, the Soviet Union's uncrewed Luna 1 and 2 became the first rover to visit the Moon.

- The US began trying to put people in space as early as 1961.
- Eight years later, on 20th July, 1969, Neil Armstrong along with Edwin “Buzz” Aldrin became the first human to step on the Moon as part of the Apollo 11 mission.
- Before the USA sent the Apollo 11 mission to the Moon, it sent three classes of robotic missions between 1961 and 1968.
- After July 1969, 12 American astronauts walked on the surface of the Moon until 1972.
- In the 1990s, the USA resumed lunar exploration with robotic missions Clementine and Lunar Prospector.
- In 2009, it began a new series of robotic lunar missions with the launch of the Lunar Reconnaissance Orbiter (LRO) and the Lunar Crater Observation and Sensing Satellite (LCROSS).
- In 2011, NASA began the ARTEMIS.
- In 2012, the Gravity Recovery and Interior Laboratory (GRAIL) spacecraft studied the Moon’s gravity.
- Apart from the USA, the European Space Agency, Japan, China, and India have sent missions to explore the Moon.
- China landed two rovers on the surface, which includes the first-ever landing on the Moon’s far side in 2019.

ISRO’s Moon Exploration Efforts:

- **Chandrayaan 1:**
 - The Chandrayaan project began in 2007 with an agreement between India’s space agency ISRO and Russia’s ROSCOSMOS for mutual cooperation.
 - However, the mission was postponed in January 2013 and rescheduled to 2016 as Russia was unable to develop the lander on time.
 - Findings: Confirmed presence of lunar water.
 - Evidence of lunar caves formed by an ancient lunar lava flow.
 - Past tectonic activity was found on the lunar surface.

- The faults and fractures discovered could be features of past interior tectonic activity coupled with meteorite impacts.
- **Chandrayaan-2** is India's second mission to the moon and comprises a fully indigenous Orbiter, Lander (Vikram) and Rover (Pragyan).
 - The Rover Pragyan is housed inside Vikram lander.
- The Indian Space Research Organisation (ISRO) recently announced India's third lunar mission Chandrayaan-3, which will comprise a lander and a rover.

INDIA'S SPACE ECONOMY

In News:

India's space economy has evolved considerably and now accounts for about 0.23% of the GDP according to the CDS-IIST research project.

Analysis of Background:

The Space Economy:

- The global space industry includes the industry's core activities in-space manufacturing and satellite operations.
- The main segments of the space economy include manufacturing, services from satellite operators and consumer services.

Recent Study by CDS-IIST:

- The CDS-IIST research project: The study is done by Centre for Development Studies (CDS) and the Indian Institute of Space Science and Technology (IIST).
- The study is a first-time attempt at scientifically measuring the size of the space economy: we have arrived at a figure of approximately \$5 billion for the 2020-21 fiscal.
- Sources: For the present study, the authors have relied on Indian Space Research Organisation (ISRO) and Parliament documents, the Comptroller and Auditor General's (CAG) reports, data on intellectual property rights and other government data, in addition to Scopus-indexed space publications.
- The estimated size of India's space economy as a percentage of the GDP: has slipped from 0.26% in 2011-12 to 0.19% in 2020-21, they found.

- Sector wise assessment: By employing internationally-accepted frameworks, the experts have examined the annual budget for the space programme and its constituents; space manufacturing, operations and application.
 - Space applications accounted for the major chunk of this evolving economy, constituting 73.57% of it in 2020-21, followed by space operations at 22.31% and manufacturing at 4.12%.

Issues associated with this sector:

- A decline in the budget for space-related activities: leading to a reduction in the size of the economy in the last two years.
 - Space budget as a percentage of the GDP slipped from 0.09% in 2000-01 to 0.05% in 2011-12, and has remained more or less at that level since then.
- Constraints: ISRO has scientific, technological, infrastructure and budgetary constraints in launching significantly more satellites to meet civilian, commercial needs and military requirements.
- Deficit: ISRO has deficit issues both in technical capacity and manpower placing constraints on its production strength.
- Foreign competition: Particularly for the launch of small satellites, which is an expanding market. The Elon Musk owned SpaceX Falcon 9 is widely considered a serious potential threat to ISRO's workhorse the Polar Satellite Launch Vehicle (PSLV).

Significance of this sector:

- In relation to GDP: India's spending is more than that of China, Germany, Italy and Japan, but less than the U.S. and Russia.
- The CDS-IIST research project has coincided with the new Central government policies opening up the sector to private players.
 - The policy is very likely to enlarge the size of the sector through enhanced private investment and improved integration with the global private space industry.
- 47 Out Of 100 Space Startups In 2021: The economic survey released in 2022 showed how the number of startups in the space industry has almost doubled in the last year. Nearly 47 of the total 100 space startups in India were started in 2021, which is 21 up from 2020.

- The increasing instances of public-private partnerships contribute extensively to the outcomes because they contribute space-related outputs, space derived products and services and the scientific knowledge arising from space research.

Steps taken by the Government for Space sector:

- The government recently updated the SpaceCom and SpaceRS policies, liberalizing the traditional satellite communication and remote sensing sectors.
- The government also released new rules for drones as well as guidelines for acquiring and producing geospatial data.
- Under various space tech initiatives: the interim independent nodal agency under the Department of Space-Indian National Space Promotion and Authorization Centre (IN-SPACe) has received close to 40 proposals from large industries, MSMEs (micro, small and medium enterprises), startups and academia.
 - The proposals cover a broad range of activities, cutting across both upstream (launch vehicle and satellite manufacturing) as well as downstream (earth observation applications, communications, etc.)
- The national registration mechanism for space objects has been implemented, with five satellites registered: A total of six memorandums of understanding have been signed with private or academic entities for sharing technical expertise and facilities.
- PM Gati Shakti National Master Plan: the government aims to provide multimodal connectivity to various economic zones and integrate the infrastructure linkages for movement of people, goods and services to improve logistics efficiency.
 - It will also leverage technology extensively, including spatial planning tools with ISRO imagery developed by Bhaskaracharya National Institute for Space Applications and Geoinformatics.

T CELL

In News:

The study reveals the durability and robustness of the T cell responses against variants, including Delta, even after one year of infection. Strong and long standing T cell responses were seen even when people were not reinfected or vaccinated

Analysis of Background:

About T cell

- T cells are a diverse and important group of lymphocytes that mature and undergo positive and negative selection processes in the thymus.
- **Types:**
 - There are several types of T cells; the most common and well-known are the CD4+ T cells (helper T cells) and CD8+ T Cells (cytotoxic T cells, or killer T cells).
 - As the names suggest, helper T cells 'help' other cells of the immune system, whilst cytotoxic T cells kill virally infected cells and tumours.
- **Functions:**
 - T cells play a vital role in both components of active immunity, including cell-mediated and to some extent humoral immunity.
 - T cells cannot recognize soluble, free antigens. T cells can only recognize protein-based, receptor-bound antigens.

REPORTING CYBER ATTACKS

In News:

The Ministry of Electronics and Information Technology is likely to come out with new cyber security regulations which will put the onus on organisations to report any cybercrime that may have happened against them, including data leaks.

Analysis of Background:

Damages inflicted by the cyber crimes

- Apart from private firms, government services, especially critical utilities, are prone to cyber attacks and breach incidents.
- The ransomware attack against the nationwide gas pipeline in 2021 in the U.S. virtually brought down the transportation of about 45% of all petrol and diesel consumed on the east coast.
- If it were measured as a country, then cyber crime — which is predicted to inflict damages totalling \$6 trillion globally in 2021 — would be the world's third-largest economy after the U.S. and China.

Provision for reporting the cybercrime

- Clause 25 in the Data Protection Bill 2021 says that data fiduciaries should report any personal and non-personal data breach incident within 72 hours of becoming aware of a breach.
- Clause in EU GDPR: Even the golden standard for data protection, namely the European Union General Data Protection Regulation (EU GDPR), has a clause for reporting data breach incidents within a stringent timeline.
- This, in principle, is likely to improve cyber security and reduce attacks and breaches.

Why reporting cybercrime is important

- Alerting other organisations: If incidences are reported, the Indian Computer Emergency Response Team and others can alert organisations about the associated security vulnerabilities.

- Precautionary measures: Firms not yet affected can also take precautionary measures such as deploying security patches and improving their cyber security infrastructure.
- Why firms are reluctant to notify the crime? Any security or privacy breach has a negative impact on the reputation of the associated firms.
- An empirical study by Comparitech indicates that the share prices for firms generally fall around 3.5% on average over three months following the breach.
- So, firms weigh the penalties they face for not disclosing the incidents versus the potential reputational harm due to disclosure, and decide accordingly.

Possible solutions

- Periodic cyber security audits: How will the regulator come to know when a firm does not disclose a security breach?
- It can be done only through periodic cyber security audits.
- Unfortunately, the regulators in most countries including India do not have such capacity to conduct security audits frequently and completely.
- Empanel third-party auditors: The government can empanel third party cyber security auditors for the conduct of periodical cyber security impact assessments, primarily amongst all the government departments, both at the national and State level, so that security threats and incidents can be detected proactively and incidents averted.
- Evaluation and Certification of cyber security: The Ministry, as part of cyber security assurance initiatives of the Government of India, to evaluate and certify IT security products and protection profiles, has set up Common Criteria Testing Laboratories and certification bodies across the country.
- These schemes can be extended towards cyber security audits and assessments as well.
- Security command centre: Much like IBM, which set up a large cyber security command centre in Bengaluru, other large firms can also be encouraged to set up such centres for protection of their firms' assets.

PROTOCOLS FOR SOCIAL MEDIA

In News:

The lack of clear systems within social media companies that claim to connect the world is appalling. It is time that they should have learned from multiple instances, as recent as the Israeli use of force in Palestine.

Analysis of Background:

Role of social media platforms in the context of conflict

- There was no unpredictability over **conflicts in the information age spilling over to social media platforms.**
- In the context of conflict, social media platforms have multiple challenges that go unaddressed.
- **Threat of information warfare:** Content moderation remains a core area of concern, where, essentially, information warfare can be operationalised and throttled.
- Their sheer magnitude and narrative-building abilities place a degree of undeniable onus on them.
- After years of facing and acknowledging these challenges, most social media giants are yet to create **institutional capacity** to deal with such situations.
- Additionally, they also act as a conduit for further **amplification of content on other platforms.**
- Major social media platforms such as Facebook, Instagram, and Twitter also provide space for extremist views from fringe platforms, where the degree of direct relation to the user generating such content is blurred.

Technology falls short

- **Misinformation and disinformation** are thorny challenges to these platforms.
- **Algorithmic solutions** are widely put to use to address them.
- These include identification of content violative of their terms, reducing the visibility of content deemed inappropriate by the algorithm, and in the determination of instances reported to be violative of the terms by other users.
- More often than not in critical cases, these algorithmic solutions have misfired, **harming the already resource-scarce party.**
- The operational realities of these platforms require that the safety of users be prioritised to address pressing concerns, even at the cost of profits.

Lessons for India

- The lack of coherent norms on state behaviour in cyberspace as well as the intersection of business, cyberspace, and state activity is an opportunity for India.
- Indian diplomats can initiate a new track of conversations here which can benefit the international community at large.
- India should ensure that it initiates these conversations through well-informed diplomats.
- Finally, it is necessary to **reassess the domestic regulatory framework** on social media platforms.
- Transparency and accountability need to be foundational to the regulation of social media platforms in the information age.

EX VAYU SHAKTI 2022

In News:

The Indian Air Force (IAF) has decided to postpone its firepower demonstration, Ex Vayu Shakti, scheduled in the Pokhran ranges in Rajasthan.

Analysis of Background:

Exercise Vayu Shakti

- It is conducted once in three years which is participated by fighters, helicopters, force enablers and support systems.
- The aim of the exercise is to detect and identify targets and neutralise them in day, dusk and night capability demonstrations.
- The Indian Air Force showcases repower capability of indigenously developed aircrafts and its missile arsenal in this exercise.
- Fighter aircraft including Jaguar, Rafale, Sukhoi-30, MIG-29, light combat aircraft Tejas, MIG-21 Bison, Hawk 32, M200 participates in the exercise.

ANTONOV AN-225: WORLD'S LARGEST AIRCRAFT

In News:

Amid Moscow's assault on Ukraine, the world's largest cargo aircraft, the Antonov AN-225 or 'Mriya', was destroyed by Russian troops during an attack on an airport near Kyiv.

Analysis of Background:

Antonov AN-225

- With a wingspan of over 290-feet, the unique Antonov AN-225 was designed in what was then the Ukrainian USSR during the 1980s amid a tense race to space between the US and the Soviet Union.
- The plane, nicknamed 'Mriya' or 'dream' in Ukrainian, is very popular in aviation circles, and is known to attract huge crowds of fans at air shows around the world.
- It was initially designed as part of the Soviet aeronautical program to carry the Buran, which was the Soviet version of the US' Space Shuttle.
- After the collapse of the Soviet Union in 1991, when the Buran program was cancelled, the aircraft was instead used to transport massive cargo loads.

Its manufacturing

- Only one AN-225 was ever built by the Kyiv-based Antonov Company, the defence manufacturers who originally designed the plane.
- It is essentially a large version of another design by the Antonoc Company — the four-engine An-124 'Condor', which is used by the Russian Air Force.
- The aircraft first took flight in 1988 and has been in use ever since.
- In the recent past, it has been used for delivering relief supplies during calamities in neighbouring nations.

NEWEST CRATER ON THE MOON

In News:

Recently, a leftover piece of a spacecraft flying (of Chang'e 5-T1 – a lunar mission of China) through space reportedly hit the surface of the moon creating a new crater that may be around 65 feet wide.

Analysis of Background:

- This is the first recorded unintentional case of space junk hitting the moon.
- The speed, trajectory, and time of impact were calculated using earth-based telescope observations called Project Pluto.
- Project Pluto is a blog that tracks near-earth objects, which was created by American astronomer Bill Gray. He is also the creator of a popular astronomy software called Guide.

Space Junk

- Space debris, also called space junk, artificial material that is orbiting Earth but is no longer functional.
 - This material can be as large as a discarded rocket stage or as small as a microscopic chip of paint.
- Much of the debris is in low Earth orbit, within 2,000 km of Earth's surface, though some debris can be found in geostationary orbit 35,786 km above the Equator.
- Issue (Kessler Syndrome) : The free floating space debris is a potential hazard for operational satellites and colliding with them can leave the satellites dysfunctional.
 - This is referred to as Kessler Syndrome, named after NASA scientist Donald Kessler in 1978.
 - It says if there is too much space junk in orbit, it could result in a chain reaction where more and more objects will collide and create new space junk in the process, to the point where Earth's orbit becomes unusable – a Domino Effect.
 - With countries launching more and more satellites, each one of them being a strategic or commercial asset, avoiding collisions could become a challenge in the future.
- Solution: Clearspace-1 (of European Space Agency), which is scheduled to launch in 2025, will be the first space mission to eliminate debris from orbit.

Lunar Craters

- Lunar Craters are bowl-shaped landforms created by Volcanism and Cratering, about 4.5 billion years ago, shortly after Earth was formed.

- There are hundreds of thousands of moon craters ranging from less than a mile across to giant basins.
- The largest crater on the Moon is called South Pole-Aitken Basin.
- Further, throughout its existence, the Moon has been bombarded by comets and asteroid chunks, and those created the many impact craters we see today.
- Moon's lack of water, atmosphere, and tectonic plates, there is little erosion, and craters are found that exceed two billion years in age.
- Mitra Crater on Moon is named after Indian radio physicist Sisir Kumar Mitra.

MAN-PORTABLE AIR-DEFENCE SYSTEMS

In News:

The United States has approved a \$200-million arms package for Ukraine, which would include US made Stinger Missiles, which are a type of shoulder-fired Man-Portable Air-Defence Systems (MANPADS).

Analysis of Background:

MANPADS

- Man-Portable Air-Defence Systems are short-range, lightweight and portable surface-to-air missiles that can be fired by individuals or small groups to destroy aircraft or helicopters.
- They help shield troops from aerial attacks and are most effective in targeting low-flying aircrafts.
- MANPATs or Man-Portable Anti-Tank Systems work in a similar manner but are used to destroy or incapacitate military tanks.

Uniqueness of MANPADS

- MANPADS can be shoulder-fired, launched from atop a ground-vehicle, fired from a tripod or stand, and from a helicopter or boat.
- They weigh anywhere between 10 to 20 kilograms and not being longer than 1.8 metres.
- They are fairly lightweight as compared to other elaborate weapon systems, making them easy to operate by individual soldiers.
- Operating MANPADS requires substantially less training.

- MANPADS have a maximum range of 8 kilometres and can engage targets at altitudes of 4.5 km.

Features:

- They have passive or ‘fire and forget’ guidance systems, meaning that the operator is not required to guide the missile to its target, enabling them to run and relocate immediately after firing.
- The missile stays locked-on to the targeted object, not requiring active guidance from the soldier.
- The missiles are fitted with infrared (IR) seekers that identify and target the airborne vehicle through heat radiation being emitted by the latter.

KUDANKULAM PANCHAYAT ADOPTS RESOLUTION AGAINST AFR

In News:

- Recently, the Kudankulam Village Panchayat has passed a resolution against the construction of the ‘Away From Reactor (AFR) facility at the Kudankulam Nuclear Power Project (KKNPP) site for storing nuclear waste.
- Earlier, the state government (Tamil Nadu) had also opposed such construction.
- The village panchayat is of the view that the AFR site would lead to radioactive pollution (spread of radioactivity) and spoil the groundwater, which is used for drinking water and irrigation

Analysis of Background:

AFR site:

- The scheme for the storage of spent fuel in a nuclear power plant is two-fold:
 1. One facility is located within the reactor building/service building, generally known as the spent fuel storage pool/bay.
 2. Another is located away from the reactor, called the Away From Reactor (AFR) Spent Fuel Storage Facility, but within the plant’s premises.

- The spent fuel storage pool inside the reactor building has a limited capacity and is used for immediate storage of the spent fuel removed from the reactor during refueling.
- The fuel remains in the pool initially for a few years for it to be cooled sufficiently before it is shifted to the facility.
- The AFR Spent Fuel Storage Facility is functionally similar to the ‘Spent Fuel Pool’ inside the reactor building, except in terms of capacity.

DOUBTS OVER DEFENCE SUPPLIES TO INDIA

In News:

With tensions escalating between Russia and the West over the Ukraine crisis, India, which has major defence cooperation with Moscow and Kyiv, faces uncertainty over timely deliveries of the S-400.

Analysis of Background:

About S-400

- The S-400 is known as Russia’s most advanced long-range surface-to-air missile defence system, capable of destroying hostile strategic bombers, jets, missiles and drones at a range of 380-km.

US reservations against S-400 purchase

- The US has made it clear that the delivery of the five S-400 systems is considered a “significant transaction”.
- Such deals are considered under its Countering America’s Adversaries Through Sanctions Act (CAATSA) of 2017.
- It could trigger sanctions against Indian officials and the Government.

About CAATSA

- The CAATSA is designed to ensure that no country is able to increase military engagement with Iran, North Korea and Russia without facing deterrent punitive action from the US.
- The sanctions are unilateral, and not part of any United Nations decision, and therefore no country is bound to accept them.

- Section 231 says the President shall impose no fewer than five different sanctions on any Government that enters into a significant defence or intelligence deal with Russia.
- Section 235 lists 12 options, including stopping credit lines from US and international banks such as the IMF, blocking sales of licensed goods and technology, banning banks, manufacturers and suppliers, property transactions and even financial and visa sanctions on specific officials.
- However, the law also empowers the President to waive sanctions or delay them if the waiver is in the US's "vital national security interests".

Has the US used CAATSA before for S-400 sales?

- The US has already placed sanctions on China and Turkey for purchase of the S-400.
- The sanctions included denial of export licences, ban on foreign exchange transactions, blocking of all property and interests in property within the US jurisdiction and a visa ban.

Types of sanctions laid

- In 2020, the US sanctioned its NATO partner Turkey, which it had warned about CAATSA sanctions for years, besides cancelling a deal to sell Ankara F-35 jets.
- The sanctions on Turkey's main defence procurement agency, also included a ban on licences and loans, and blocking of credit and visas to related officials.

Likely impacts after India's purchase

- The Biden administration has no firm indication on where it leans on India's case.
- However, several senators (US parliamentarians) have called upon the Biden administration to consider a special waiver for India.
- This is on account of India's importance as a defence partner, and as a strategic partner on US concerns over China and in the Quad.
- Other US leaders think that giving a waiver to India would be the wrong signal for others seeking to go ahead with similar deals.

India's dependence on Russia

- While Russia has been a traditional military supplier sharing platforms and technologies that others would not, the cooperation has further deepened in recent years.
- The defence trade between the two countries has crossed \$15 billion since 2018.

- Even today, over 60% of Indian military inventory is of Russian origin, especially with respect to fighter jets, tanks, helicopters and submarines among others, while several deals are in the pipeline.

Why is the S-400 deal so important to India?

- **Security paradigm:** S-400 is very important for India's national security considerations due to the threats from China, Pakistan and now Afghanistan.
- **Air defence capability:** The system will also offset the air defence capability gaps due to the IAF's dwindling fighter squadron strength.
- **Russian legacy:** Integrating the S-400 will be much easier as India has a large number of legacy Russian air defence systems.
- **Strategic autonomy:** For both political as well as operational reasons, the deal is at a point of no return.

COLOMBO SECURITY CONCLAVE

In News:

National Security Advisor while addressing the 5th NSA-level Colombo Security Conclave (CSC) Meeting called for strengthening cooperation amongst maritime neighbours in the Indian Ocean region to address shared security challenges.

Analysis of Background:

- India, the Maldives and Sri Lanka had conducted a two-day maritime operation in the Indian Ocean region to keep it safe and secure including for international trade.
- Ships and aircraft of the navies of the three countries had participated in the maiden 'Colombo Security Conclave (CSC) Focused Operation'
- CSC is being attended by National Security Advisors and Representatives from India, Sri Lanka, Maldives, Mauritius, Bangladesh and Seychelles.
- It aim to address the regional security challenges such as narco-trafficking, human trafficking, piracy, fisheries, counterterrorism and violent extremism.
- It identified key areas of cooperation to enhance and strengthen regional security in the following five pillars:
 - Maritime Safety and Security;

- Countering Terrorism and Radicalisation;
- Combating Trafficking and Transnational Organised Crime;
- Cyber Security,
- Protection of Critical Infrastructure and Technology and Humanitarian Assistance and Disaster Relief.

Colombo Security Conclave

- It was founded as a trilateral security framework between India, Sri Lanka and the Maldives with four pillars of security cooperation, covering marine safety and security, human trafficking, counter-terrorism, and cyber security.
- 'CSC Focused Operation' was aimed at keeping the vital part of the Indian Ocean safe and secure for commercial shipping, international trade and conduct of legitimate maritime activities.

What is maritime security?

- In international relations, maritime security doesn't have a commonly agreed definition.
- It classifies issues in the maritime domain comprising national security, marine environment, economic development, and human security.
- It also deal with regional seas, territorial waters, rivers and ports.

Why it is significant?

- Maritime security is of utmost significance to the world community as there are maritime concerns ranging from piracy at sea to illegal immigration and weapon smuggling.
- It also deals with threats of terrorist attacks and environmental catastrophes.
- For India, maritime security is an important aspect of national security as it has a coastline of over 7,000 km.
- India's exports and imports have remained mostly across the shipping lanes of the Indian Ocean. Therefore, securing Sea Lanes of Communication (SLOCs) have been an important issue for India in the 21st century.
- Maritime security is the centre of India's foreign policy due to growing chinese presence also in the Indian Ocean Region.

KUKI INSURGENCY IN MANIPUR

In News:

Just before the first of the two phases of the Assembly Elections went underway in Manipur, all insurgent groups associated with the Kuki tribes in Manipur said they will vote for a particular political party.

Analysis of Background:

Who are the Kukis?

- The Kukis are an ethnic group including multiple tribes originally inhabiting the North-Eastern states of India such as Manipur, Mizoram and Assam; parts of Burma (now Myanmar), and Sylhet district and Chittagong hill tracts of Bangladesh.
- While Kuki is not a term coined by the ethnic group itself, the tribes associated with it came to be generically called Kuki under colonial rule.
- In Manipur, the various Kuki tribes, living mainly in the hills, currently make up 30% of the total 28.5 lakh population of the State.
- While Churachandpur is their main stronghold, they also have a sizable population in Chandel, Kangpokpi, Tengnoupal and Senapati districts.

Their ethnicity

- The rest of the population of Manipur is made up mainly of two other ethnic groups — the Meiteis or non-tribal, Vaishnavite Hindus who live in the valley region of Manipur, and the Naga tribes, historically at loggerheads with the Kukis, also living in the hilly areas of the State.
- Of the 60 seats in the Manipur Assembly, 40 are held by Meiteis and the rest 20 seats are held by Kukis and Nagas.

What led to the Kuki insurgencies in Manipur?

- The Kuki insurgent groups have been under Suspension of Operation (SoO) since 2005, when they signed an agreement for the same with the Indian Army.
- Later, in 2008, the groups entered a tripartite agreement with the State government and the UPA led Central government to temporarily suspend their operations and give political dialogue a chance.
- Manipur, formerly a princely state including parts of Burma, made the accession into India after Independence, but was only made a full-fledged State in 1972.

- The resentment over the “forceful” inclusion into India and delay in granting statehood led to the rise of various insurgent movements.

Roots of the insurgency

- The roots of Kuki militancy lie in conflicts of ethnic identity.
- First was the demand for self-determination solely for groups belonging to their ethnic fabric, meaning the dream to form a Kukiland.
- The second reason for insurgency lies in the inter-community conflicts between the Kukis and the Nagas in Manipur.
- The Kuki-Naga conflict was started over securing identity and land as some Kuki inhabited areas coincided with Naga inhabited areas.
- Wanting to dominate trade and cultural activities in those areas the two communities often engaged in violent standoffs, with villages being torched, civilians killed and so on.

MILAN 2022

In News:

- Sea Phase of MILAN 2022 commenced.
- With 26 ships, 21 aircraft and one submarine the multilateral naval exercise is being conducted in the Bay of Bengal.

Analysis of Background:

- **The Sea Phase of MILAN aims:** to enhance interoperability and maritime cooperation, and share best practices amongst the participating navies.
- This exercise includes Weapon firings, Seamanship evolutions, advanced anti-submarine warfare exercises, cross deck helicopter landings, simulation of complex operational scenarios and tactical manoeuvres.

About MILAN 2022:

- It is a multilateral naval exercise hosted by the Indian Navy.
- It began in 1995.
- It is held biennially and brings together Navies of all the countries in the region.

- All editions of Milan had been hosted under the aegis of the Andaman and Nicobar Command and were held in the Andaman and Nicobar Islands.
- In 2020, the Navy decided to hold the next edition of Milan in Visakhapatnam, Andhra Pradesh under the Eastern Naval Command.
- Aim: It is aimed to enhance professional interaction between friendly foreign navies and learn from each other's strengths and best practices in the maritime domain. Government will pursue cooperation initiatives with friendly foreign countries including in Indian Ocean Region, through structured interactions like Staff Talks, Empowered Steering Group.
- Areas of cooperation includes capacity building, marine domain awareness, training, hydrography, technical assistance and operational exercise

KAMIKAZE DRONES

In News:

US President announced \$800 million in new military aid for Ukraine, including 800 additional Stinger anti-aircraft missiles, 9,000 antitank weapons, 100 tactical drones including Kamikaze or suicide drones.

Analysis of Background:

What are Kamikaze drones?

- Also called Switchblade drones, these are small unmanned aircraft that are packed with explosives that can be flown directly at a tank or a group of troops.
- The Switchblade drones have cameras that show a target seconds before impact.
- The drones are difficult to detect on radar, and they can even be programmed to hit targets without human intervention, based on facial recognition.
- **Technical specifications: Weighing** just five-and-a-half pounds, Switchblade can be taken into battle in a backpack and fly up to 7 miles to hit a target. They are called Switchblade because their bladelike wings spring out on launch.

S-400

In News:

Indian Air Force to employ 'direct tactical planning' for S-400.

Analysis of Background:

What is S-400?

- S-400 (NATO name SA-21 Growler) is considered one of the world's most advanced air defence systems that can simultaneously track and neutralise a range of incoming objects spanning aircraft, missiles and Unmanned Aerial Vehicles (UAVs) over very long ranges.
- It is especially suited to take down strategic aerial platforms like bombers, mid-air refuellers, reconnaissance aircraft and Advanced Early Warning and Control Systems (AWACS).
- Given their capabilities, the S-400 has emerged as one of the most controversial arms exports of Russia and a major point of contention between Washington and Moscow.

Why is the S-400 deal so important to India?

- S-400 is very important for India's national security, especially as it faces new threats from China, Pakistan and Afghanistan, calling it a "game changer".
- The system will also offset the air defence capability gaps due to the IAF's dwindling fighter squadron strength.
- Integrating the S-400 into the national air defence architecture will be much easier as India has a large number of legacy Russian air defence systems, a major reason India did not consider the U.S. air defence systems as a viable alternative.
- For both political as well as operational reasons, the deal is at a point of no return.
- Buying the S-400 is a way for asserting India's 'strategic autonomy'.

TOPIC: REPORT

HIGHLIGHTS OF THE DEMOCRACY REPORT 2022

In News:

A Sweden-based institute has said that India is no longer an 'electoral democracy', classifying the country as an 'electoral autocracy' instead.

Analysis of Background:

About the report

- The study, titled 'Democracy Report 2022: Autocratisation Changing Nature?' states that more than twice as many countries are undergoing Autocratisation as are witnessing democratization.
- The conceptual scheme takes into account not only the electoral dimension (free and fair elections) but also the liberal principle that democracy must protect "individual and minority rights".
- The V-Dem report classifies countries into four regime types based on their score in the Liberal Democratic Index (LDI):
 1. Liberal Democracy
 2. Electoral Democracy
 3. Electoral Autocracy and
 4. Closed Autocracy

What is the report's methodology?

- Since key features of democracy, such as, judicial independence, are not directly measurable, and to rule out distortions due to subjective judgments, V-Dem uses aggregate expert judgments.
- It gathers data from a pool of over 3,700 experts worldwide who provide judgments on different concepts and cases.
- Leveraging the diverse opinions, the V-Dem's measurement model algorithmically.

The Liberal Democratic Index (LDI)

- The LDI captures both liberal and electoral aspects of a democracy based on 71 indicators that make up the:
 1. **Liberal Component Index (LCI):** It measures aspects such as protection of individual liberties and legislative constraints on the executive.
 2. **Electoral Democracy Index (EDI):** It considers indicators that guarantee free and fair elections such as freedom of expression and freedom of association.
- In addition, the LDI also uses:
 3. **Egalitarian Component Index** (to what extent different social groups are equal)
 4. **Participatory Component Index** (health of citizen groups, civil society organisations) and
 5. **Deliberative Component Index** (whether political decisions are taken through public reasoning focused on common good or through emotional appeals, solidarity attachments, coercion)

Highlights of the report

- The democratic gains of the post-Cold War period are eroding rapidly in the last few years.
- Autocratisation is spreading rapidly, with a record of 33 countries autocratising.
- The level of democracy enjoyed by the average global citizen in 2021 is down to 1989 levels.
- While Sweden topped the LDI index, other Scandinavian countries such as Denmark and Norway, along with Costa Rica and New Zealand make up the top five in liberal democracy rankings.

What does the report say about India?

- India is one of the top ten 'autocratisers' in the world says the report.
- The report classifies India as an autocracy ('electoral autocracy') rather than a democracy, ranking it 93rd on the liberal democracy index, out of 179 countries.
- The report notes that India is part of a broader global trend of an anti-plural political party driving a country's Autocratisation.
- Ranked 93rd in the LDI, India figures in the "bottom 50%" of countries.

- It has slipped further down in the Electoral Democracy Index, to 100, and even lower in the Deliberative Component Index, at 102.
- In South Asia, India is ranked below Sri Lanka (88), Nepal (71), and Bhutan (65) and above Pakistan (117) in the LDI.

Concerns raised by the report

- **(Communal) Polarisation:** The report also points out that “toxic levels of polarisation contribute to electoral victories of anti-pluralist leaders and the empowerment of their autocratic agendas”.
- **Rise of political hate speeches:** The report states that measures of polarisation of society, political polarisation, and political parties’ use of hate speech tend to systematically rise together to extreme levels.
- **Misinformation as a policy tool:** The report identified “misinformation” as a key tool deployed by autocratising governments to sharpen polarisation and shape domestic and international opinion.
- **Repression of civil society and censorship of media:** These were other favored tools of autocratising regimes.
- **Declining autonomy of Election bodies:** The report also found that decisive autonomy for the electoral management body (EMB) deteriorated in 25 countries.

WORLD HAPPINESS REPORT 2022

In News:

This year marks the 10th anniversary of the World Happiness Report.

Analysis of Background:

World Happiness Report:

- Published since 2012, the World Happiness Report is based on two key ideas:
 - Happiness or life evaluation measured through opinion surveys and
 - Identifying key elements that determine well-being and life evaluation across countries.
- The report usually ranks 150 countries based on several factors such as real GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity and perceptions of corruption.
- This year, the report ranked 146 countries.

- Every year, each variable measures a populated-weighted average score on a scale of 0-10 that is tracked over a period of time and further compared with other countries.
- This year, countries which ranked in the top 10 last year, moved upwards and downwards.
- Finland has been named the world's happiest country for the fifth year running followed by Denmark.
- The biggest gains in happiness have taken place in Serbia, Bulgaria and Romania.
- Afghanistan was ranked as the unhappiest nation, followed by Lebanon, Zimbabwe, Rwanda and Botswana, respectively.
- India saw a marginal improvement in its ranking, jumping three spots to 136, from 139 a year ago.

WORLD AIR QUALITY REPORT 2021

In News:

The 2021 World Air Quality Report was released, the report presented an overview of the state of global air quality in 2021.

Analysis of Background:

- IQAir, a Swiss group that measures air quality levels based on the concentration of Particulate Matter (PM) 2.5.
- IQAir endeavours to engage, educate, and inspire governments, researchers, Non-Government Organisations, companies, and citizens to work together to improve air quality and create healthier communities and cities.

Key Finding:

- In 2021, Mumbai had recorded Particulate Matter (PM) 2.5 annual average of 46.4 microgram/cubic metre – nearly nine times above the World Health Organisation (WHO) limit – according to a report by IQAir.
- In 2021, 48 per cent of India's cities exceeded 50 $\mu\text{g}/\text{m}^3$, or more than 10 times the WHO guideline.
- India was home to 14 of the world's 20 most polluted cities.
- India's PM 2.5 annual average reached 58.1 $\mu\text{g}/\text{m}^3$ in 2021, ending a three-year trend of improving air quality.

- The country's PM 2.5 annual averages have now returned to pre-quarantine levels of 2019.
- New Delhi city is topping the list for the fourth consecutive year. Delhi topped a list of 92 capital cities in 2020, 85 such cities in 2019, and 62 such cities in 2018.
- On the list of capital cities, Dhaka followed Delhi in terms of the annual average PM2.5 concentration.
- Not a single country managed to meet the WHO's air quality standard in 2021.

Risks of Air Pollution:

- Air pollution causes and aggravates many diseases, ranging from asthma to cancer, lung illnesses and heart disease.
- The estimated daily economic cost of air pollution has been figured at \$8 billion (USD), or 3 to 4 percent of the gross world product

TOPIC: INFRASTRUCTURE

VIBRANT VILLAGE PROGRAMME

In News:

The Union government plans to open the villages along the Chinese border for tourists under the Vibrant Village programme announced in the Union Budget 2022-23.

Analysis of Background:

Vibrant Village Programme

- The program aims to improve infrastructure in villages along India's border with China.
- Infrastructure will be improved in states like Uttarakhand, Himachal Pradesh, and Arunachal Pradesh.
- Under the programme, residential and tourist centres will be constructed.
- It will also provide for improvement in road connectivity and development of decentralized renewable energy sources.
- Apart from that, direct access of Doordarshan and education related channels will be provided. Support will be provided for livelihood.

Key focus areas:

- It focuses livelihood generation, road connectivity, housing, rural infrastructure, renewable energy, television and broadband connections.
- This objective will be met by strengthening infrastructure across villages located near the Line of Actual Control (LAC).

Why need such scheme?

- The programme is a counter to China's model villages but the name has been carefully chosen so as to not cause any consternation in the neighbouring country.
- China has established new villages along the LAC in the past few years particularly across the Arunachal Pradesh border.
- While China has been settling new residents in border areas, villages on the Indian side of the frontier have seen unprecedented out-migration.

TOPIC: HEALTH

MATERNAL MORTALITY IN INDIA

In News:

Kerala has yet again emerged on top when it comes to maternal and child health, with the State recording the lowest Maternal Mortality Ratio (MMR) of 30 (per one lakh live births) in the country.

Analysis of Background:

Maternal Mortality

- Maternal mortality refers to deaths due to complications from pregnancy or childbirth.
- The maternal mortality ratio (MMR) is defined as the number of maternal deaths during a given time period per 100,000 live births during the same time period.
- It depicts the risk of maternal death relative to the number of live births and essentially captures the risk of death in a single pregnancy or a single live birth.

Trends in India

- India's maternal mortality ratio (MMR) has improved to 103 in 2017-19, from 113 in 2016-18.
- Seven Indian states have very high maternal mortality. These are Rajasthan, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Odisha and Assam.

- The MMR is 'high' in Punjab, Uttarakhand and West Bengal. This means 100-130 maternal deaths per 100,000 live births.
- It is 'low' in Haryana and Karnataka.
- The states of Uttar Pradesh, Rajasthan and Bihar have seen the most drop in MMR.
- West Bengal, Haryana, Uttarakhand and Chhattisgarh have recorded an increase in MMR over the last survey.

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