APTI PLUS
Academy For Civil Services Pvt. Ltd.
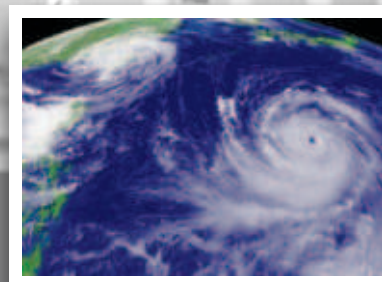Eastern India's Best IAS Academy since 2006
An ISO 9001:2008 Certified Institute
Creating Civil Servants for the Nation

31 ST EDITION

ONE NATION ONE ELECTION

TROPICAL CYCLONE

asean india

INDIA-ASEAN SUMMIT: ENHANCING TIES

A Monthly Periodical for aspirants of UPSC Examination

CONTENTS

Arise, awake and stop not till the goal is reached.
- Swami Vivekananda

CONTENTS

CONTENTS

BIRSA MUNDA

Context
- Birth anniversary of Birsa Munda.

About
- Birsa Munda was an Indian tribal freedom fighter, reformer and religious leader. He was nicknamed as **'Dharti Abba' or Father of the Earth**, by his followers.

Contribution

Religion	• Renounced Christianity and protested against conversion of Tribals by Christian missionaries. • Created a new religion called "**Birsait**", which worshipped only one god. • Birsait soon became the popular religion among the **Mundas and Oraons.** • Preached a strong anti-British sentiment through his religion.
Reformer	• Stressed on the need of the tribals to study their own religion and not forget their cultural roots. • Convinced people to give up superstition, alcohol, theft, lying, murder and begging under his new religion.
Munda Rebellion	**Background** • Munda tribals practiced **Khuntkatti system** (joint holding by tribal lineages). • However, British colonial system intensified the transformation of the tribal agrarian system into a feudal state by introducing **Zamindari-tenancy system.** • **Outsiders (Dikus)** were invited by the Brtitish to settle on and cultivate the tribal land. • Thus, the various tribes, who were the original owners of the land, were left bereft of land and any means of livelihood. **'Ulgulan' or the 'Great Tumult' (1899-1900)** • Birsa infused in tribals the values to love, respect, support and safeguard their land from outsiders. • He used traditional symbols and language to rouse people, urging them to destroy "Ravana" (**dikus** and the Europeans) and establish a kingdom under his leadership. • He mobilised thousands of tribal folk to form guerrilla armies to attack the British Raj. • He declared that the reign of Queen Victoria was over and the Munda Raj had begun. • He gave orders to the raiyats (tenant farmers) to pay no rents. • The people attacked police stations and churches, and raided the property of moneylenders and zamindars. They raised the **white flag** as a symbol of Birsa Raj. • The attacks were launched not only on the moneylender-landlord-mahajan-contractor combine, but directly against the British. • The **massacre at Dumbri Hill** made it a "hill of the dead" when hundreds of tribals lost their lives for the cause of freedom against the modern ammunition of the British. • The Great Tumult against Britishers sought to establish Munda Raj and independence. • The slogan of the movement was "Abua Raj ete jana, Maharani Raj Tundu Jana" which means "Let the kingdom of queen be ended and our kingdom established". **Outcome** • The Britishers were forced to abolish the feudal system that plagued the Adivasi lands in Jharkhand and Bihar. • Birsa compelled the Britishers to introduce new legislation - the **Chota Nagpur Tenancy Act, 1908**. This Act prohibited the transfer of tribal land to non-tribal parties. • Government recognized Khuntkatti rights and banned Beth Begari (forced labour)

Significance
- Birsa Munda's political awareness and ability to connect with people became the **foundation of later tribal movements in the nineteenth century.**
- He became a **symbol of the anti-feudal, anti-colonial struggle of that time.**
- His influential personality and motivational speeches **encouraged the public to believe in the power of freedom**.
- His revolutionary work not only put **an effective dent in the British rule**, it also **helped mobilise tribals**.
- It is due to him and many other such activists and **tribals in today's India get inspired to protect their rights**.

The Munda people initially spread from Southeast Asia some 4000–3500 years ago, but mixed extensively with local Indian populations. This ethnic group predominantly speaks the Mundari language as their native language, which belongs to **Austroasiatic languages.** The Munda are found in the northern areas of east India concentrated in the states of **Jharkhand, Bihar, Odisha and West Bengal**. The Munda also reside in adjacent areas of Chhattisgarh as well as in portions of Bangladesh. They are one of India's largest scheduled tribes. Munda people in Tripura are also known as Mura.

| | SARDAR VALLABHBHAI PATEL | | ***GS-I   MODERN HISTORY*** |

Context
- On 31st October, National Unity Day (Rashtriya Ekta Diwas) was celebrated to commemorate the birth anniversary of Sardar Vallabhbhai Patel.

About Sardar Vallabhbhai Patel
- Sardar Vallabhbhai Patel was an Indian barrister, politician and one of the leading figures of Indian freedom movement.
- He worked very closely with Mahatma Gandhi and was deeply **influenced by Gandhi's ideology and principles.**

Contribution
Indian National Movement- Overview
- Patel was actively involved in the **Non-Cooperation, Satyagraha and Quit India movements** and was at various points **arrested** by the British.
- When Gandhi was imprisoned in 1923, he led and **organized the Satyagraha movement in Nagpur**.
- He was elected as the **President of the Indian National Congress during the 1931 Karachi session**, at which the Congress passed the historic Karachi Resolution.
- He organised the **peasants of Kheda, Borsad, and Bardoli** in Gujarat in non-violent civil disobedience against oppressive policies imposed by the British Raj. He showed remarkable organizing skills in all the occasions.

As Sanitation Commissioner
- In 1917, Sardar Vallabhai Patel was elected in Ahmedabad Municipal Corporation as the Sanitation Commissioner.
- He extended electricity, drainage and sanitation facility to all parts of the city.
- The Municipality was transformed, from being a mere adjunct to the British rule, into a popular body with a will of its own.

Social Reformer
- He worked extensively against alcohol consumption, untouchability, caste discrimination and for women emancipation in Gujarat and outside.
- There were calamities like plague in 1917 and famine in 1918, and on both occasions Vallabhbhai did important work to relieve distress.
- He also conducted major educational reforms including fighting for the recognition and payment of teachers.

Kheda Satyagraha
- On Gandhi's call, Patel quit his job and joined the movement to fight for exemption of taxes in Kheda Satyagraha.
- Kheda Satyagrahawas launched to secure exemption from payment of the land revenue assessment since the crops had failed.

Non-Cooperation Movement
- Vallabhbhai left his law practice and gave himself up wholly to political and constructive work, touring villages, addressing meetings, organizing picketing of foreign cloth shops and liquor shops.
- He orgazined bonfires of British goods and propagated wearing of Khadi.

Bardoli Satyagraha
- In 1925, Bardoli suffered from a serious predicament of a famine and flood. Despite this Bombay Presidency increased the tax rates by 22%.
- Patel initiated the struggle **for complete rejection of taxes**. He organised volunteers, camps and an information network across affected areas.
- In order to take the situation under control the government set up the **Maxwell-Broomfield commission.**
- The revenue was reduced to 6.03% and peasants were returned their confiscated land.
- It was during the struggle and after the victory in Bardoli that Patel was addressed by followers as **"Sardar".** Soon, he emerged as a national leader.

Contribution to Constitution Making
- In the Constituent Assembly, he was an active member of the **committees relating to minorities and fundamental rights.**
- During the Committee Stages and the plenary sessions, he **strongly argued against separate electorates.**

- During the framing of India's Constitution, he was the **Home and Information and Broadcasting Minister** in the Interim Government.
- Sardar Patel played a critical role in negotiating with and **integrating the 565 princely states into the Union of India.** Thus, he is hailed as the **"Iron Man of India".**

Post Independence India

- As the **first Home Minister and Deputy Prime Minister** of India, he restored law and order and dealt with the rehabilitation of thousands of refugees with great courage and foresight.

Civil Services

- Sardar Patel, envisioned our civil services to be the **'steel frame' of good governance** of the country.
- He is remembered as the "**patron saint of India's civil servants**" for having established the modern all-India services system.

> In 2018, "Statue of Unity", a colossal statue of Vallabhbhai Patel was inaugurated. It is the world's tallest statue with a height of 182 metres (597 feet). It is located on **Sadhu Bet island** of the Narmada River, facing the Sardar Sarovar Dam.

WARLI PAINTING   GS-I   CULTURE & HERITAGE

Context

- Artists in Hyderabad are using traditional Warli art to create awareness on important issues.

WARLI PAINTING	DETAILS
Origin	Maharashtra
Depiction	Life and beliefs of the Warli tribe
Technique	Rudimentary wall paintings
Usage of	Geometric shapes such as circles, triangles and squares
Pigment used	White pigment made from a mixture of rice, clay paste and water, with gum as a binder
Paint Brush	Bamboo stick chewed at the end
Background of Painting	Brown. Mixture of mud and cow dung cakes
Popular Theme	Spiral chain of humans around one central motif.
Dates back to	10th century A.D
Central Concept	Mother Nature
Recently popularized by	Padmashree Jivya Soma Mashe

Warli Tribe

- Indigenous tribe of Maharashtra-Gujarat border and surrounding areas.
- Animistic beliefs. Life, customs and traditions transformed as a result of acculturation. Adoption of many Hindu beliefs.
- Speak an unwritten Varli language which belongs to the southern zone of the Indo-Aryan languages.
- Traditionally semi-nomadic.
- Practice polygyny.

Context

• The Ganga Utsav 2020 began in the first week of November to celebrate the glory of National River Ganga.

Highlights

• The Ganga Utsav is being organised by the **National Mission for Clean Ganga** celebrating the 12th anniversary of declaring River Ganges as National River. The event was organised jointly by the **Ministry of Jal Shakti.**

Tributaries of Ganga

Left	Ramganga, Garra, Gomti, Ghaghara, Gandak, Burhi Gandak, Koshi, Mahananda, Bramhaputra
Right	Yamuna, Tamsa (also called Tons), Karamnasa, Sone, Punpun, Falgu, Kiul, Chandan, Ajoy, Damodar, Rupnarayan

State	Drainage area (km²)
Uttar Pradesh	294364
Madhya Pradesh	198962
Bihar	143961
Rajasthan	112490
West Bengal	71485
Haryana	34341
Himachal Pradesh	4317
U.T. of Delhi	1484
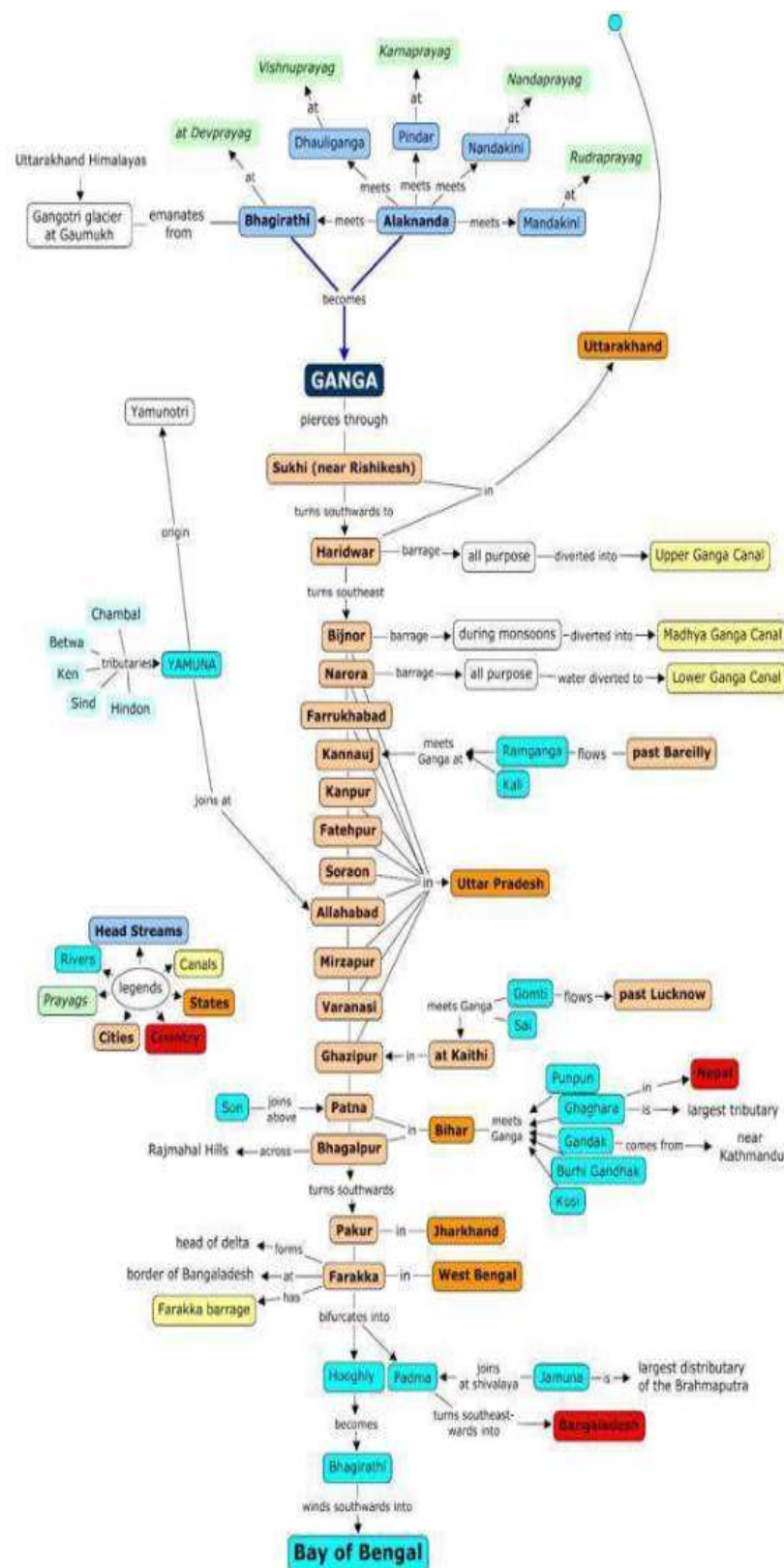
State of Pollution in Ganga

- Over 500 million citizens depend on the River Ganga for life itself, yet our National River remains one of the most polluted in the world.
- The polluted water denies vast populations of their rights to water, and robbing the world of the beauty and sanctity of a river that is worshipped by one billion people as divinity itself.

Source: www.gangaaction.org
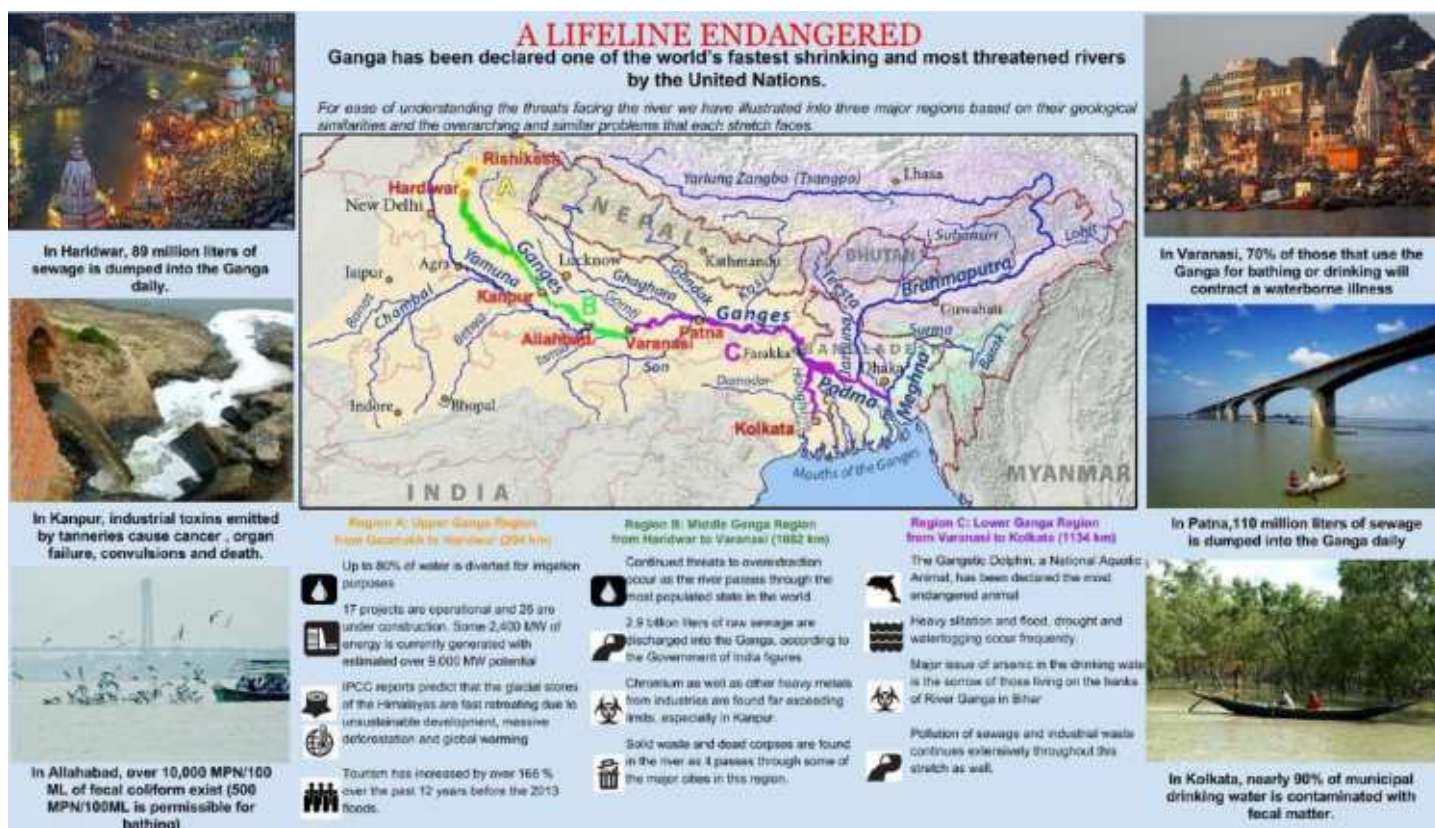
Initiatives to Clean Ganga

- **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.
- **Namami Gange under NMCG**

NMCG

- National Mission for Clean Ganga(NMCG) was registered as a society in 2011 under the Societies Registration Act 1860.
- It acted as implementation arm of National Ganga River Basin Authority(NGRBA) which was constituted in 2009 under the provisions of the Environment (Protection) Act (EPA),1986.
- NGRBA was dissolved in 2016, consequent to constitution of **National Council for Rejuvenation, Protection and Management of River Ganga** (referred as National Ganga Council) under EPA 1986.
- Aims and objectives of NMCG:
- ✓ To ensure effective abatement of pollution and rejuvenation of the river Ganga.
- ✓ To maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.

Namami Gange

Main pillars of the Namami Gange Programme
- Sewerage Treatment Infrastructure
- River-Surface Cleaning
- Afforestation
- Industrial Effluent Monitoring
- River-Front Development
- Bio-Diversity
- Public Awareness
- Ganga Gram

Working of Namami Gange Programme under NMCG

ACTION PLAN

Eight ministries to work on specific issues for three years to carry forward these 21 action points under the 'Namami Gange' programme:

▶ Taking up comprehensive measures to determine and maintain **environmental flow** of Ganga round the year

▶ Rehabilitation and upgradation of existing **sewage treatment facilities** and taking up new projects of sewage infrastructure

▶ Treatment of sewage and other **effluents flowing directly** into the river through various drains by adoption of suitable technology and financial models

▶ Tackling **industrial pollution**

▶ Promoting sanitation in rural areas on the banks of the river Ganga and development

of select village panchayats as model panchayats to be christened as 'Ganga grams'

▶ Tackling pollution coming from use of **chemical fertilisers and pesticides**

▶ Tackling **religious refuse** entering into the river, including cleaning of river surface and ghats

▶ Creating **model cremation ghats** on the banks of the river

▶ **River-front development and ghats** at selected seven places and also at other places of cultural significance

▶ Development of public amenities in **Char Dham Yatra**

and at Ganga Sagar

▶ Engagement of **Ganga Task Force**

▶ Providing support to states for preparation of **Detailed Project Reports**

▶ Coordination between various ministries of the **central government and concerned state governments**; capacity building of state governments, urban local bodies and panchayati raj institutions

▶ GIS and **spatial mapping** of Ganga Basin

▶ **Research projects** including Ganga River Basin Management Plan

▶ Establishment of **National Ganga Monitoring Centre**

▶ Establishment of **Ganga Institute of River Sciences** at a suitable location along Ganga

▶ **Afforestation drive** for medicinal plants and native tree species

▶ Conserving diversity of Gangetic **aquatic life**

▶ Creation of **Ganga Vahini**

▶ Communication and **public outreach** activities

Recent key achievements under Namami Gange programme:

Sewerage Treatment Capacity: 85+ Sewerage management projects are under implementation in the States of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal.

River-Front Development: River-Front Development projects for construction, modernization and renovation of 182 Ghats and 118 crematoria are underway.

River Surface Cleaning: River Surface cleaning for collection of floating solid waste from the surface of the Ghats and River and its disposal are underway at multiple locations.

Bio-Diversity Conservation: Several Bio-Diversity conservation projects namely: Biodiversity Conservation and Ganga Rejuvenation, Fish and Fishery Conservation in Ganga River, Ganges River Dolphin Conservation Education Programme have been initiated.

Afforestation: Forestry interventions for Ganga through Wildlife Institute of India; Central Inland Fisheries Research Institute and Centre for Environment Education have been initiated.

Public Awareness: Awareness activities through rallies, campaigns, exhibitions, shram daan, cleanliness drives, competitions, plantation drives are underway to increase community participation in the programme. **Gange Theme song** was released widely and played on digital media to enhance the visibility of the programme.

Industrial Effluent Monitoring: The number of Grossly Polluting Industries (GPIs) as of 2019 is 1072. Regulation and enforcement through regular and surprise inspections of GPIs is carried out for compliance verification against stipulated environmental norms.

Ganga Gram: MoDWS has already constructed more than 8 lakhs out of the targeted 15 lakhs toilets in 1674 Gram Panchayats of 5 Ganga Basin States. UNDP has been engaged as the executing agency for rural sanitation programme and to develop Jharkhand as a model State.

Challenges however

Sewage treatment – falling far short of the targets

- As per the Namami Gange targets, sewage treatment plants (STPs) with over 2,000 million litre a day (MLD) capacity had to be rehabilitated.
- However, out of a total of 236 projects including STPs had been sanctioned, only 63 had been completed.
- Another area of concern: Data on sewage generation. STPs are designed on the basis of the amount of sewage a city generates.
- But estimations of sewage generation have been found to be inaccurate.
- As per CPCB data the actual measured discharge of wastewater into the Ganga is 123 per cent higher than what has been estimated.

Flow of the river – thinning rapidly

- Experts say the water level in the river is going down at an alarming rate.
- If the flow in the river could be maintained, it would have itself taken care of 60-80 per cent of organic pollutants in the river.
- But numerous hydroelectric projects on the Bhagirathi and Alaknanda have turned the upper stretches of the Ganga into ecological deserts.
- The baseflow amount of the river has decreased by a huge 56 per cent in 2016, as compared to the 1970s.

New toilets, new sludge – but where will it all go?

- 99 per cent villages on the banks of the Ganga have been declared open defecation free (ODF) under the Swachh Bharat Mission.
- But just building new toilets, is not the solution. About 180 MLD of sludge will be generated in the five Ganga Basin states when they become ODF.
- Faecal sludge is a bigger pollutant than sewage.While BOD of sewage is 150-300 mg/litre, that of faecal sludge would be 15,000-30,000 mg/litre.
- The Ganga cannot run clean unless the sludge generated is managed effectively.

BOD	VERSUS	COD
BOD is the amount of oxygen consumed by bacteria while decomposing organic matter under aerobic conditions		COD is the amount of oxygen required for the oxidation of total organic matter in water
Biological oxidation process		Chemical oxidation process

Cost overruns and governance glitches

- The clean-up programme is dogged by delays, which is leading to tremendous cost escalations.
- Only 23 per cent of the sanctioned amount under NMCG had been utilized till 2018.
- Poor governance is adding to the issue.

Way ahead

- Restoring ecological flows at every point along the Ganga's course.
- Preventing all waste water, starting with sewage and industrial waste, from mixing with the river. Especially along the heavily polluted Kanpur and Varanasi stretches of Ganga.
- Promoting massive water conservation and water resource management. Example- rain water harvesting schemes, at both centralized and decentralized levels within the Ganga River Basin.
- The STPs need to be verified on efficiency, reliability and technology parameters by independent agencies (tech-efficiency-reliability verification).
- Pre-treatment units at STPs or sewage pumping stations, including solid-liquid separation units before faecal sludge enters the STPs.
- **Countries like Malaysia have made it mandatory** for STPs to have a pre-treatment unit.
- Better enforcement and monitoring, for efficient faecal sludge management .

10 critical steps to Ganga Revival

Promote only decentralized sewage treatment plants (dSTP)	STPs need to be verified on efficiency, reliability and technology parameters	Develop and restore local storages (ponds, lakes, wetlands)
Bring back glory to all natural drains that empty into rivers	Identify, define and protect 'river-corridors'	Start restoring lower order streams and smaller tributaries
Map the entire looped length of each and every tributaries	Restore base flows through groundwater recharge	Define the desired ecological flow regime(s)

Evolve new and innovative ways to generate sufficient revenues

---

MAULANA ABUL KALAM AZAD — *GS-I MODERN HISTORY*

Context
- National Education Day was celebrated on November 11 to celebrate the birth anniversary of Maulana Abul Kalam Azad.

About
- Maulana Abul Kalam Azadwas an independence activist, and a senior leader of the Indian National Congress during the Indian independence movement.

Contribution
- He fiercely **criticised the British for racial discrimination** and ignoring the needs of common people across India.
- He also **criticised Muslim politicians for focusing on communal issues** before the national interest.
- He **rejected** the All India **Muslim League's communal separatism**.
- Azad **opposed the partition of Bengal** in 1905.
- He became **active in revolutionary activities**, to which he was introduced by Aurobindo Ghosh and Shyam Sundar Chakravarty.
- He established an Urdu weekly newspaper in 1912 **called Al-Hilal,** and openly attacked British policies.
- In 1913, he was **founding member of the Anjuman-i-Ulama-i-Bangala**. His work helped improve the relationship between Hindus and Muslims in Bengal.
- Azad's Al-Hilal was banned in 1914 under the Press Act. Azad started a new journal, the **Al-Balagh**, which increased its active support for nationalist causes and communal unity.
- Azad also **became active in his support for the Khilafat agitation** to protect the position of the Sultan of Ottoman Turkey during the Non Cooperation Movement.
- After gaining independence, he was appointed as **India's first Minister of Education**.
- He focused on scientific education, **established several universities** and promote the avenues of research and higher studies. He is the person behind IITs and various other institutes in India.
- He strongly **advocated education for women and free and compulsory primary education** for children up to the age of 14.
- Since 2008, every year in India, National Education Day is celebrated.

GURU TEG BAHADUR — *GS-I MEDIEVAL HISTORY*

Context
- Recently, President Ram Nath Kovind paid tribute to Guru Teg Bahadur on his 345th Martyrdom Day.

About

- Guru Tegh Bahadur was **the ninth Sikh Guru**. His term as Guru ran from 1665 to 1675.
- In the Guru Granth Sahib, there are one hundred and fifteen hymns of Guru Tegh Bahadur.
- Guru Tegh Bahadur is remembered for his selfless service to people. He travelled across the country with the teachings of Guru Nanak - the first Sikh Guru.
- He had set up community kitchens and wells for the local people wherever he went.
- Anandpur Sahib, the famous holy city and a global tourist attraction in the foothills of Himalayas, was **founded by Guru Tegh Bahadur.**
- Guru Tegh Bahadur had resisted forced conversions of non-Muslims to Islam during Aurangzeb's rule.
- He was publicly executed on the orders of Aurangzeb because he had opposed religious persecution.
- **Gurudwara Sis Ganj Sahib and Gurdwara Rakab Ganj Sahib** in Delhi are the sites of his execution and cremation.

Philosophy of Sikhism

- Sikh religion believes that God is infinite and omnipresent.
- Guru Nanak stated that the Five Evils, namely, ego, anger, greed, attachment and lust, are dangerous hindrances to the spiritual evolution of a human being.
- A vital aspect of Sikhism is naam simran or remembering the name of God.
- Sikhism also encourages seva (charitable services) and free distribution of food at Sikh Gurdwaras (places of worship), also called "langars".

Contribution of Sikhism to the world

- Sikh teaching propagates **equality among all human beings**
- It rejects discrimination on the basis of caste and creed.
- Sikhs regard men and women as equal in all spheres of life.
- More than religious and ascetic practices as a means to attain salvation, Sikhism stresses on leading life as an honest and upright human being.
- There are three core tenets of the religion: meditation upon and devotion to the Creator, truthful living, and service to humanity.

Guru Nanak **(1469 to 1539)**	• Founder of Sikhism. • Contemporary of Mughal emperor Babur. • Introduced the concept of one God. • Started the institution of "Langar"--common kitchen where food is served to everyone without any discrimination. • Emphasized the equality of women • Rejected the path of renunciation • rejected the authority of the Vedas
Guru Angad **(1539 to 1552)**	• Invented and introduced the Gurmukhi script . • Visited by Humayun. • Popularized and expanded the institution of "Langar"
Guru Amardas **(1552 to 1574)**	• Institutionalised the Sikh faith. • Picked the site for the Golden Temple, Amritsar. • Contemporary of Mughal emperor - Akbar. • Introduced the Anand Karaj marriage ceremony for the Sikhs, replacing the Hindu form. • Established Manji & Piri system of religious missions for men and women respectively. • Abolished Sati and purdah system among the Sikhs.
Guru Ram Das **(1574 to 1581)**	• Founded the city of Amritsar • Started the construction of Golden Temple at Amritsar.
Guru Arjan Dev **(1581 to 1606)**	• Compiled the Adi Granth . • completed construction of Sri Darbar Sahib/Golden Temple • Executed by Jahangir.
Guru Hargobind **(1606 to 1644)**	• Introduced the Akal Takht (seat of power). • First Guru to take up arms to defend the faith. • Waged wars against Jahangir and Shahjahan
Guru Har Rai Sahib	• Supported Dara Shikoh (son of Shah Jahan) against Aurangzeb.

(1644 to 1661)	
Guru Har Kishan **(1661 to 1664)**	• Contemporary of Aurangazeb • Was the Guru from age 5 till his death before reaching 8 years.
Guru Tegh Bahadur **(1665 to 1675)**	• Was publicly beheaded by Aurangzeb for refusing to convert to Islam in 1675.
Guru Gobind Singh **(1675 to 1708)**	• Established the Khalsa in 1699 • Organised the Sikhs into a martial sect.

🔴 HOYSALA EMPIRE   *GS-I   ANCIENT HISTORY*

Context
• Recently, a Hoysala-era idol of Mahakali at the Lakshmi Devi temple, Karnataka was found damaged.

The temple
• Lakshmi Devi temple, built in a chatuskuta style (four shrines), is one of the earliest known temples built by the Hoysalas.
• It was built by the Hoysala Empire King **Vishnuvardhana** in 1114 C.E.
• The building material is Chloritic schist, more commonly known as **soapstone.**
• The temple does not stand on a jagati (platform), a feature which became popular in later Hoysala temples.
• It is an archaeological Survey of India (ASI) monument.

About Hoysalas

Hoysala Empire	**Details**
Area of Rule	Karnataka and Kaveri delta in present-day Tamil Nadu.
Time Period	Between the 10th and the 14th centuries.
Preceded by	Western Chalukyas
Succeeded by	Vijaynagara Empire
Founder	Nripakama II/Sala
Most important ruler	Bittaga Vishnuvardhana. Annexed Chola province of Gangawadi.Defeated Chalukya Vikramaditya VI
Capital	Initially Belur. Later- Halebidu
Administration	Divided into provinces: Nadu, Vishaya, Kampana and Desha
Remarkable for	Art, Architecture, and Religion. Hoysala Architecture
Literature	Kannada and Sanskrit.
Important Temples	Chennakeshava Temple, Belur; the Hoysaleswara Temple, Halebidu; Chennakesava Temple
Architecture	Hybrid or vesara style
Learning Schools	Ghatikas
Religion	Jainism, Vaishnavism and Lingayatism
Contemporary Philosophers	Basava, Madhvacharya and Ramanuja in Karnataka
Rajaditya	Mathematician who wrote Vyavaharaganita and Lilavati during Vishnuvardhana's reign
Last Ruler	Veera Ballala III

🔴 VISHNU TEMPLE & GANDHARA CIVILIZATION   *GS-I   ANCIENT HISTORY*

Context
• A Hindu temple, believed to have been constructed 1,300 years ago, has been discovered by Pakistani and Italian archaeological experts at a mountain in northwest Pakistan's Swat district.

The temple
• It was built by the Hindus 1,300 years ago during the Hindu Shahi period.
• The Hindu Shahis or Kabul Shahis (850-1026 CE) was a Hindu dynasty that ruled the Kabul Valley (eastern Afghanistan), Gandhara (modern-day Pakistan).

Gandhara Civilization

- Gandhara was a region in the Peshawar basin of the ancient Indian subcontinent, corresponding to **present-day north-west Pakistan and east Afghanistan.**
- The centre of the region was at the **confluence of the Kabul and Swat rivers**, bounded by the **Sulaiman Mountains on the west and the Indus River on the east**.
- Well-known cities of the Gandhara include **Takshasila (Taxila), Purushapura (Peshawar) & Pushkalavati (Mardan),** where remains continue to be found to this day.
- During the Achaemenid period and Hellenistic period, its capital city was **Pushkalavati.**
- Later the capital city was moved to **Peshawar by the Kushan emperor Kanishka** the Great in about 127 AD.

Political History of Gandhara

Gandhara witnessed the rule of several major powers of antiquity as listed here:

- ✓ **Persian Achaemenid Empire (c. 600-400 BCE)**
- ✓ Greeks of Macedon (c. 326-324 BCE),
- ✓ **Mauryan Empire of Northern India (c. 324-185 BCE),**
- ✓ Indo-Greeks of Bactria (c. 250-190 BCE),
- ✓ Scythians of Eastern Europe (c. 2nd century to 1st century BCE),
- ✓ Parthian Empire (c. 1st century BCE to 1st century CE),
- ✓ **Kushans of Central Asia (c. 1st to 5th century CE),**
- ✓ White Huns of Central Asia (c. 5th century CE)
- ✓ **Hindu Shahi of Northern India (c. 9th to 10th century CE)**

- This was followed by Muslim conquests by which time we come to the medieval period of Indian history.

Gandhara School of art

- The Gandhara School of art had also developed in first century AD along with Mathura School **during reign of Kushana** emperor Kanishka.
- Both Shakas and Kushanas were patrons of Gandhara School, which is known for the first sculptural representations of the Buddha in human form.
- The art of the Gandhara school was primarily Mahayana and shows Greco-Roman influence.

Gandhara	Mathura	Amravati
1. High influence of helenistic and greek art features.	1. Indegenous in nature	1. Indegenous in nature
2. Grey-sandstone is used. (we also find images made of stucco with lime plaster)	2. Spotted red sandstone	2. White marble
3. Mainly Buddhist images are found	3. Buddhism, Jainism and hindu images are found.	3. Mainly Buddhism
4. Patron- kushana	4. Kushana	4. Shatavahanas
5. Found in north-west india	5. North india. Mainly region of Mathura	5. Deccan region near Krishna-godavari delta.
6. Spiritual Buddha images. Very stylish with wavy hair.	6. Delighted Buddha and not spiritual look	6. Mainly depicts stories of jatakas.
7. Has beard and moustache.	7. No beard and moustache	
8. Lean body.	8. Strong muscular feature	
9. Both seated and standing images are found.	9. Most of them are seated.	
10. Eyes are half closed and ears are large	10.Eyes are open with small Ears.	

MONOLITH   *GS-I   CULTURE & HERITAGE*

Context

- A metal monolith, was spotted on a hillside in Romania days after a similar structure mysteriously disappeared in Utah.

Monoliths in India

Gommateshwara Statue in Shravanabelagola, Karnataka

- It is **tallest monolithic statue in the world**, carved out of a single block of **granite.**

- It is 57-foot (17 m) high located on Vindyagiri Hills and symbolizes Peace, Non violence, sacrifice worldly affairs, and simple living as followed by Jainism.
- The Gommateshwara statue is dedicated to the **Jain figure Bahubali (son of Rishabhanatha - the first tirthankara of Jainism).**
- It was built around **983 C.E.** and is one of the largest free standing statues in the world.
- The construction of the statue was commissioned by the **Ganga dynasty** minister and commander, **Chavundaraya.**

The Statue of Ahimsa
- It is located at Mangi-Tungi, in Nashik, in Maharashtra. It was built on the inspiration of Gyanmati Mataji in 2016
- It is the **tallest Jain statue in the world.**
- The statue depicts the first Jain Tirthankara, **Rishabhanatha.**
- The statue is 121 feet (36.8 meters) and has been carved out of the **Mangi-Tungi hills,** which are considered to be sacred by the Jains.

Bawangaja
- Bawangaja is a famous Jain pilgrim center in southwestern Madhya Pradesh.
- It is the **world's second largest megalithic statue** (carved out of the mountain) of **Lord Rishabhadeva,**the first Jain Tirthankara.
- The statue is 84 feet (26 m) high and was created early in the 12th century.

Bellary Fort, Karnataka
- It is built in two parts namely, the Upper Fort and the Lower Fort.
- The Upper Fort was built by **Hanumappa Nayaka**, a feudatory of Vijayanagara Empire, but the Lower Fort was built **by Hyder Ali** in later part of the 18th century.
- Built: 16th century; Materials: Granite Stones and mud.

Bhongir/Bhuvanagiri Fort
- Bhongir Fort was built on an isolated monolithic rock by the **Western Chalukyan ruler Tribhuvanamalla Vikramaditya VI** in the year 1076.

Kailasha temple
- The Kailasha temple is the largest of the rock-cut Hindu temples at the Ellora Caves, Maharashtra. It is a megalith carved from a rock cliff face.
- It was commissioned by **Rashtrakuta king Krishna I** (r. 756-773 CE).

Savandurga
- Savandurga is a hill 60 km west of Bengaluru, **Karnataka.**
- The hill is considered to be among the **largest monolith hills in Asia.**
- The hill rises to 1226 m above mean sea level and forms a **part of the Deccan plateau.**
- It consists of peninsular gneiss, granites, basic dykes and laterites. The Arkavathi river passes nearby.

Gopachal rock-cut Jain monuments
- Gopachal rock-cut Jain monuments, are a group of monolithic Jain carvings dated to between 7th and 15th century.
- They are located **around the walls of the Gwalior Fort**, Madhya Pradesh.
- They depict **Tirthankaras in seated Padmasana** posture as well as standing Kayotsarga posture.

TROPICAL CYCLONES

Storms in news

- Typhoon Rolly or Goni made landfall on November 6 in the eastern Philippines.
- Recently, Hurricane Iota also made landfall in Nicaragua in Central America and developed into a category five storm.
- Vamco, a powerful and deadly Category 4-equivalent typhoon recently, struck the Philippines and Vietnam.
- A powerful Cyclone Nivar, with wind speeds of 120 to 130 kmph, made its landfall as a very **severe cyclonic storm near Puducherry** coast recently. The name **Nivar was suggested by Iran.**

Hurricane - Typhoon - Cyclone
What is the difference?
They are essentially the same type of weather phenomenon. It only depends on WHERE the storm forms and happens.

HURRICANE Northeast Pacific Ocean and Atlantic Ocean
TYPHOON Northwest Pacific Ocean
CYCLONE South Pacific Ocean and Indian Ocean.

Northern Hemisphere: counter-clockwise / anti-clockwise
Southern Hemisphere: clockwise

Cyclones

- A cyclone is a large scale air mass that rotates around a strong center of low atmospheric pressure. Cyclones are usually accompanied by violent storms and bad weather.
- The air circulates inward in an **anticlockwise direction in the Northern hemisphere and clockwise in the Southern hemisphere.**
- Cyclones are classified as: **(i) extra tropical cyclones (also called temperate cyclones); and (ii) tropical cyclones.**
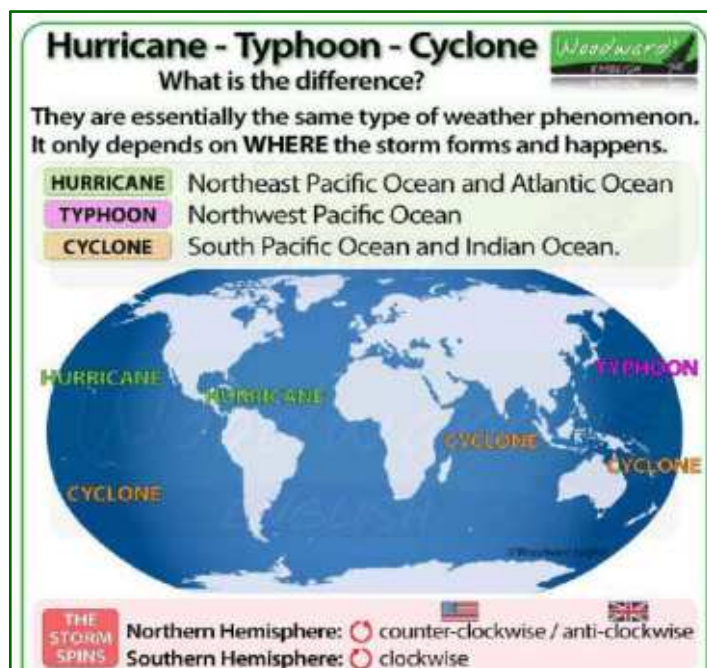
What are Tropical Cyclones?

- Cyclones that develop in the regions **between the Tropic of Capricorn and Tropic of Cancer** are called tropical cyclones.
- Tropical cyclones are intense circular storms that **originate over warm tropical oceans.**
- They rotate in anti-clockwise direction in the Northern Hemisphere and in a clockwise direction in the Southern Hemisphere.
- They are characterized by **low atmospheric pressure, high winds, and heavy rain**.
- Drawing **energy from the sea surface** a tropical cyclones maintains its strength as long as it remains over warm water.

Ingredients for the Development of a Tropical Cyclone
Light winds
Thunderstorms
Cooler Air
Heat   Moisture
Warmer Air
Ocean temperature warmer than 80°F

Note: Extra tropical cyclones occur in temperate zones and high latitude regions, though they are known to originate in the Polar Regions.

Conditions for development of Tropical Cyclones

There are six main requirements for tropical cyclogenesis:

1. sufficiently warm sea surface temperatures (higher than 27º C),
2. atmospheric instability,
3. high humidity in the lower to middle levels of the troposphere,
4. enough Coriolis force to sustain a low pressure center,
5. a pre-existing low level focus or disturbance, and
6. low vertical wind shear

Note: While these conditions are necessary for tropical cyclone formation, they do not guarantee that a tropical cyclone will form.

<div style="text-align:center">**Key concepts**</div>

Coriolis effect

The Coriolis effect is the apparent acceleration of a moving body as a result of the Earth's rotation. It makes things (like planes or currents of air) traveling long distances around the Earth appear to move at a curve as opposed to a straight line. The Coriolis effect is an important determinant of wind direction on a global scale.

Coriolis Effect

- The rotation of the Earth causes all moving objects in the Northern Hemisphere, including air mass, to deflect to the right and those in the Southern Hemisphere to move to the left.
- This Coriolis effect is absent at the Equator.
- Coriolis Force- prevents a direct simple flow from the Equator to the Poles.
- This is also known as 'Ferrel's Law'.
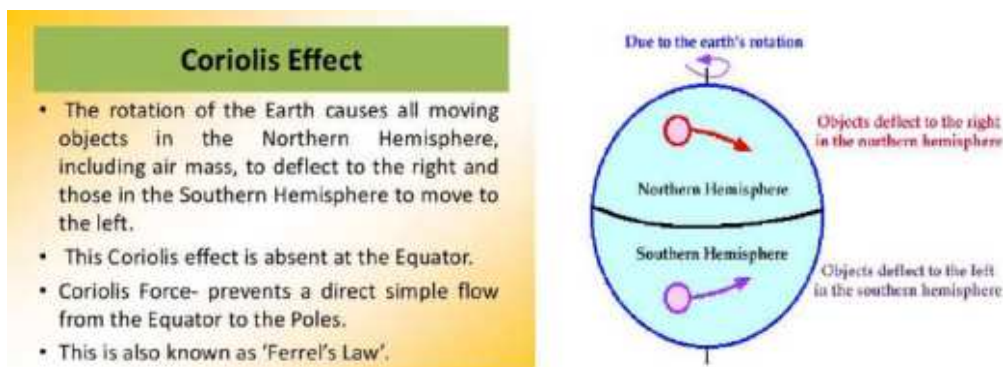
Wind shear

Wind shear sometimes referred to as wind gradient, occurs when there is a change in the direction or speed of wind usually at short distances. Atmospheric wind shear is normally described as either vertical or horizontal wind shear.

Vertical wind shear is a change in wind speed or direction of winds at increasing heights in the atmosphere. Horizontal wind shear is a change in wind speed with change in lateral position for a given altitude. For cyclones to develop, low vertical wind shear is a must.
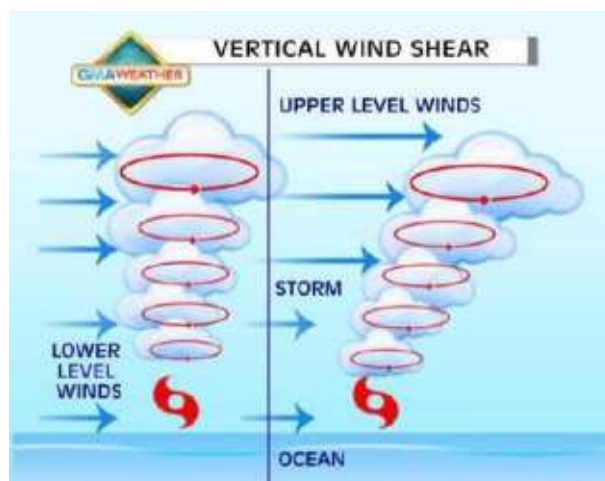
Atmospheric Instability

Atmospheric stability determines whether or not air will rise and cause storms; sink and cause clear skies; or essentially do nothing.

Atmospheric instability

If an air parcel is warmer than its surrounding environment, then it will be less dense than its surroundings and will rise like a hot air balloon. This is Unstable Air and has the potential for creating thunder storms if it contains enough water vapor.

If an air parcel is cooler than its surrounding environment, then it will be denser than its environment and will sink. Think of this situation as a pebble sinking in water. This is Stable Air which generally leads to clear skies.

If an air parcel is the same temperature as its surrounding environment, then the parcel will not move of its own accord. This is Neutral Air.

Weather and unstable air

Unstable air enhances rising motions caused by either heating the surface or moving colder air above it.

When saturation is reached, the water condensation releases latent heat. This adds buoyancy to the air making it rise even faster

Condensation Releases Latent Heat Increases Vertical Motion

Liquid

Water Vapor

Cloud Base

Condensation Level

$T = T_d$

Surface Heating Causes Unstable Air

Rising Air Cools

Formation of clouds favored by an unstable atmosphere.

Stable Air	Unstable Air
• Stratiform Clouds	• Cumuliform Clouds
• Steady Precipitation	• Showery Precipitation
• Smooth Air	• Turbulent Air
• Poor Visibility	• Good Visibility

How tropical storms are formed

High humidity and ocean temperatures of over 26°C are major contributing factors

Water evaporates from the ocean surface and comes into contact with a mass of cold air, forming clouds

A column of low pressure develops at the centre. Winds form around the column

As pressure in the central column (the eye) weakens, the speed of the wind around it increases

26°

Mechanism of tropical cyclones

A source of warm, moist air derived from tropical oceans with sea surface temperature normally near to or in excess of 27 degrees C.

Winds near the ocean surface blowing from different directions converge and cause air to rise and storm to form clouds.

Winds which do not vary greatly with height are known as low wind shear. This allows the clouds to rise vertically to high levels.

Coriolis force i.e. the spin induced by the rotation of the earth is one of the main factor. Once a cluster of storm clouds start to rotate, it becomes a tropical depression. If it continues to develop it becomes a tropical cyclone and later a cyclone.

SAFFIRE SYMPSON WIND SCALE

Category	Wind Speed (mph)	Type of Damage
1	74-95	Some Damage
2	96-110	Extensive Damage
3	111-129	Devastating Damage
4	130-156	Catastrophic Damage
5	157 and above	Catastrophic Damage

Structure of a Tropical Cyclone
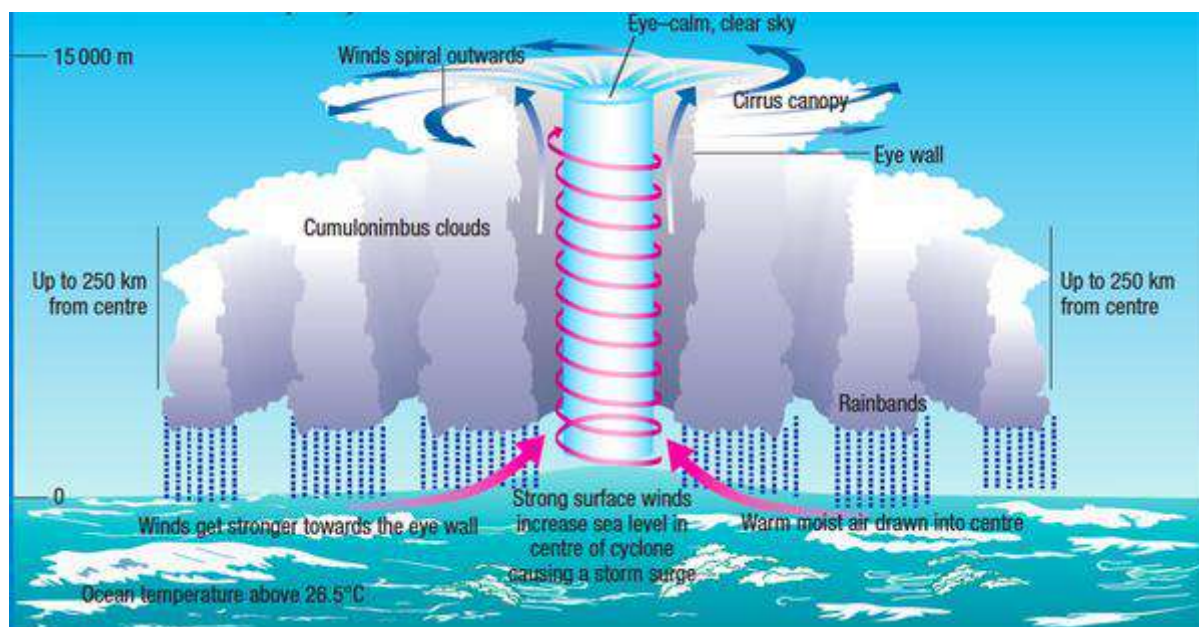
The eye
- The eye of the storm is the centre. It is the area of sinking air at the center of circulation.
- The eye is characterized by clear skies and calm weather.
- It is circular in shape and in size ranges from 8 - 200 km.

The eye wall
- The eyewall is the band around the eye with maximum wind speed, heaviest rainfall and greatest height.
- It is responsible for the maximum damage caused by a cyclone.

Rainbands
- These are Curved bands of clouds and thunderstorms that trail away from the eye wall in a spiral fashion.
- These bands are capable of producing heavy bursts of rain and wind.
- There are sometimes gaps in between spiral rain bands where no rain or wind is found.

How are the cyclones named?
- If the speed of a cyclone is more than 34 nautical miles per hour then it becomes necessary to give it a special name.
- In 2000, a group of nations called WMO/ESCAP (World Meteorological Organisation/United Nations Economic and Social Commission for Asia and the Pacific), decided to start naming cyclones in the region.
- The group comprised **of Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand.**
- The WMO/ESCAP expanded to include five more countries in 2018 — **Iran, Qatar, Saudi Arabia, United Arab Emirates and Yemen.**
- After each country sends in suggestions, the WMO/ESCAP Panel on Tropical Cyclones (PTC) finalizes the list. These lists are used sequentially and they are not rotated every few years.

Guidelines to adopt names of cyclones
- The proposed name should be neutral to
  - ✓ politics and political figures
  - ✓ religious believes,
  - ✓ cultures and
  - ✓ gender
- Name should not hurt the sentiments of any group of population over the globe.
- It should not be very rude and cruel in nature.
- It should be short, easy to pronounce and should not be offensive to any member.
- The maximum length of the name will be eight letters.
- The proposed name should be provided with its pronunciation and voice over.
- The names of tropical cyclones over the north Indian Ocean will not be repeated. Once used, it will cease to be used again. Thus, the name should be new.

✓ The World Meteorological Organization is a specialized agency of the United Nations responsible for promoting international cooperation on atmospheric science, climatology, hydrology and geophysics.

Tropical Cyclones and India
- India is the place in the North Indian Ocean that is most vulnerable to getting hit by tropical cyclones, from the east or from the west.
- On average, 5-6 tropical cyclones make landfall in India each year.
- The subcontinent with a long coastline of 8041 kilometres is exposed to nearly **10 per cent of the world's tropical cyclones.**
- Of these, majority of cyclones have their initial genesis over the Bay of Bengal and strike the East coast of India.

The usual trend: India's east coast is a magnet for cyclones
- Though both are located in the **same latitude band and receive the same amount of solar radiation** from the Sun, the Bay of Bengal is much warmer than the Arabian Sea and many more storms brew over the bay. Reasons:

1. **Oceanic circulation and heat removal:** The winds over the Arabian Sea are stronger because of the presence of the **mountains of East Africa.** These strong winds force a much more vigorous oceanic circulation and the heat received at the surface is transported into the deeper ocean.
   The winds over the Bay of Bengal, in contrast, are more sluggish and the bay is unable to remove the heat received at the surface. Hot water temperature is the basic criteria for the development and intensification of cyclones. The average temperature in the Bay of Bengal around the year is high - about 28 degrees.

2. **Sea surface temperature**: The bay receives more rainfall; it also receives more freshwater from the large rivers, especially the Ganga and the Brahmaputra, that empty into it.
   This freshens the surface of the BOB and stabilizes the water column, making it more difficult for the winds to mix the warm, stable surface layer with the cooler waters below.
   In the Arabian Sea, there is no such stabilizing effect. As a consequence, the mixing with the cooler waters below is more vigorous. Since a sea surface temperature of about 28ºC is necessary for convection to take place in the atmosphere, this condition is satisfied in the Bay of Bengal but not in much of the Arabian Sea.

3. **Pacific Ocean:** Pacific Ocean is a hot bed for cyclonic activities and hence typhoons originating in the Pacific ocean influences the cyclones in Bay of Bengal. This is not the case in Arabian Sea.

4. **Salinity:** The Arabian Sea is saltier than the Bay of Bengal. As a result, it easily gets heated up and evaporates faster. And the rate of evaporation is way higher than the rate of precipitation due to lack of supply of fresh water in Arabian Sea.

5. **Movement:** According to IMD cyclones originating in Arabian Sea move northwest. So they actually move away from Indian mainland.

Why has Arabian Sea turned into a cyclone hotspot in the recent past?
- According to the India Meteorological Department, the frequency and intensity of cyclonic activity in the Arabian Sea was the highest it had been in over a century, in 2019.
- Five cyclones originated in the area in 2019 — Vayu, Hikka, Kyarr, Maha and Pavan.

- Scientists are in agreement that **rising sea surface temperatures (SST) in the Arabian Sea** are contributing to the formation of an increased number of cyclones.
- SST in the Arabian Sea rose by a staggering 0.36 degrees Celsius, compared with the baselines temperatures between 1981 and 2010.

> The India Meteorological Department (IMD) is an agency of the Ministry of Earth Sciences. It is the principal agency responsible for meteorological observations, weather forecasting and seismology. IMD is also one of the six Regional Specialised Meteorological Centres of the World Meteorological Organisation. It has the responsibility for forecasting, naming and distribution of warnings for tropical cyclones in the Northern Indian Ocean region, including the Malacca Straits, the Bay of Bengal, the Arabian Sea and the Persian Gulf.

Impact of Cyclones

Primary and secondary impacts of cyclones on physical and social environment

Primary Impacts

On Physical Environment

On Social Environment
Instant death or injury by wind and wave action

Secondary Impacts

Immediate Impacts
Instant death or injury due to uprooting of trees, light-posts, house collapse, inundation or by any other alterations in the physical environment.

Long term Impacts
Sub-optimal exsistence leading to death.

#	Impact
1	Redistribution of sand
2	Sand deposition on agricultural field
3	Changes in depositional characteristics in river bed
4	River bank erosion
5	Beach erosion
6	Erosional and depositional effects at places
7	Uprooting and debranching of trees
8	Falling of light-posts
9	Damage and destruction of roads and railways
10	Breaching of embankment
11	Destruction and damage of buildings
12	Inundation

Issues in Cyclone mitigation

- Cyclone Amphan is the latest reminder that India needs to upgrade its disaster management systems.
- In 2019, India saw five million new internal displacements caused by climate disasters.

Other issues

- **Focus on Post disaster management rather than Pre- Disaster management**
- There should be a fine balance between the two:

Post-Disaster
- Response
- Recovery
- Reconstruction

Pre-disaster
- Prevention
- Mitigation
- Preparedness

Lack of coordination between federal, state/district and local government agencies
Logistics of evacuation (transport services)
Public awareness and response
Lack of training
Poor sectoral collaboration

Challenges and Recommendations

Challenges of Cyclone Risk Reduction Strategies	Recommendations
◇ Limitations of cyclone early warning system	◇ Development of cyclone early warning system
◇ Inadequate number of cyclone shelters	◇ Building of adequate number of cyclone shelters
◇ Absence of cyclone resilient housing	◇ Capacity development of people living in the coastal areas
◇ Absence of social safety net	◇ Long term cyclone mitigation measures like cyclone resilient housing, expansion of bio-shield, development of cyclone contingency plan
◇ Lack of medical coverage	

- **Lack of coordination:** There is a lack of coordination between the agencies of state government, central government with the local communities.
- **Communication issues:** Information and Cyclone warnings are not properly dissemniated between the concerned agencies. This results in delayed efforts as was evident in Ockhi cyclone disaster.

Case study

Learning from Odisha's Disaster Mitigation Preparedness
- Recently, Cyclone Fani wreaked havoc on Odisha. The Odisha government showed a high degree of preparedness and effectively managed to evacuate about 1.2 million people based on IMD's prior predictions.
- The government successfully managed to minimize the loss of life.

But how?
- Odisha has a **great community outreach system** through which people are being reached on time.
- It now has a network of **900 cyclone shelters** and there is a **robust mechanism for the maintenance of the cyclone shelters**.
- Each **cyclone shelter has a maintenance committee** where youth have been involved and trained for search and rescue, first aid medical attention, and for providing cyclone warnings.
- Through a network of these shelters and committees and training, the state has involved the entire community.
- It is now fairly easy to disseminate warnings and move people into safe cyclone shelters.
- The state's disaster management systems are monitored twice each year.
- The state also set up **coastal shelter-belt plantations, and afforestation measures** such as planting of mangroves in coastal districts in the aftermath of the 1999 super cyclone, which severely crippled Odisha.
- These activities have helped the Government of Odisha to minimise loss of lives from severe cyclonic storms such as Phailin, Hudhudand, Fani, and Amphan, which have hit the coastal State over the years.
- Odisha has managed to create a sense of community during such disasters that other states can also emulate.

Way ahead

Cyclone Management

Structural precautions:
- Siting or re-siting of buildings in locations with minimal exposure to high-velocity winds, floods & surge prone zones
- Use of special cyclone-resistant building materials/ patterns.
- Construction of cyclone shelters with flood-proofed access routes
- Construction of multi-purpose, multi-story concrete structures
- There should be no house between two mountains
- Wind load must be calculated before the construction of any structure
- For highrise buildings steel structures/ towers are to be provided for upper floors (as they are more ductile than concrete).
- The span of bridges must be combined with separate short spans instead of a single long span
- Coastal embankment construction

Non-structural Measures
- Land-use zoning
- Warning systems
- Emergency agencies, facilities and equipment
- Community education
- Coastal forestry planning with appropriate mangrove species & vegetation on the embankment

Structural Mitigation: Cyclone shelters:

The increase number of deaths in cyclone-affected areas was mostly due to the non-availability of safe shelters in the coastal villages.

Provides safe shelters to vulnerable peoples during flood and cyclones.

These are constructed near evacuating community and away from source of hazard.

These specialized buildings are designed to endure wind speed upto 300km/h (category 5) cyclone and moderate earthquake.

Its plinth is above high flood line and standing on a stilted floor, it can remain unaffected in storm surge up to the first floor level.

These shelter structures are differ from normal buildings to endure more sever wind pressure.

Apart from these, coordination between centre and state agencies is the key in mitigating impact of cyclones.

ENSO & MJO   *GS-I GEOGRAPHY*

Context

- The La Niña weather phenomenon is back in the central and eastern equatorial Pacific Ocean after nearly a decade's absence - World Meteorological Organization (WMO).

ENSO Cycle

- El Niño–Southern Oscillation (ENSO) is an irregularly periodic **variation in winds and sea surface temperatures** over the tropical **eastern Pacific Ocean.**
- Every three to seven years, the surface waters across tropical Pacific Ocean warm or cool by 1°C to 3°C, compared to normal.
- The warming phase of the sea temperature is known as El Niño and the cooling phase as La Niña.
- Thus, El Niño and La Niña are opposite phases of what is known as the **El Niño-Southern Oscillation (ENSO) cycle.**
- These deviations from normal surface temperatures can have large-scale impacts not only on ocean processes, but also on global weather and climate.

Note: El Niño and La Niña are the extreme phases of the ENSO cycle; between these two phases is a third phase called ENSO-neutral.

Concepts we need to know before we delve deeper into the ENSO mechanism

A thermocline is the transition layer between the warmer water at the surface and the cooler deep water below.

The trade winds or easterlies are the permanent east-to-west prevailing winds that flow in the Earth's equatorial region (between 30°N and 30°S latitudes).

Convection is the process generally associated with warm rising air and the formation of cloud.
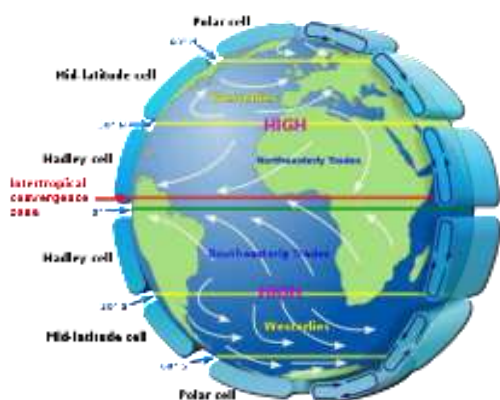
Upwelling

Upwelling is a vertical motion of water. When wind or currents displace water at the surface of the ocean, water from deeper in the ocean is drawn up to replace the displaced water. Deep water is generally cooler and richer in nutrients than surface water so upwelling is important in supporting productivity in the oceans of the world.
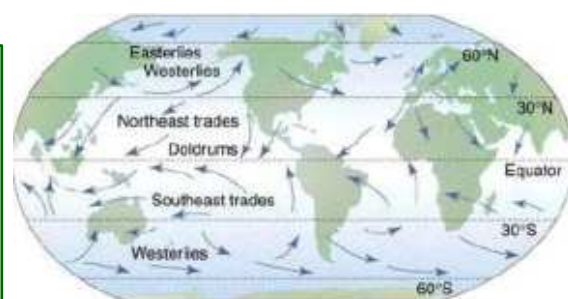
(c) Global trade winds

ENSO Mechanism

El Niño–Southern Oscillation (ENSO): **Neutral**
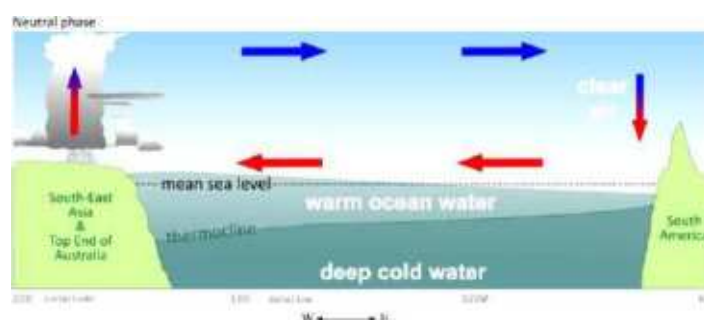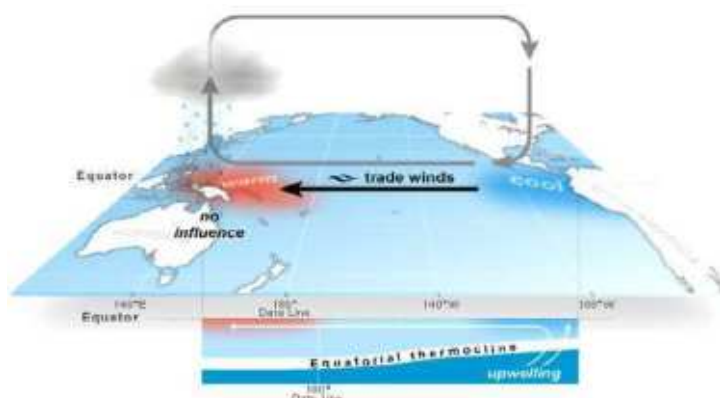
The 'Neutral phase'

- Under 'normal' conditions, we have a situation referred to as a Neutral phase.
- **At first, Easterly Trade Winds** (blowing from east to west) push the warm **surface water** away from South America towards tropical South-East Asia.
- Conversely, off the west coast of South America the depth of the warm equatorial top layer of the ocean has reduced, and the thermocline is nearer the ocean surface. This means that **cold, nutrient-rich water upwells into the upper parts of the ocean here.**
- Around tropical South-East Asia, warm surface water evaporates.
- Thiscauses increased rainfall around Indonesia and neighbouring lands such as the Top end of Australia.
- In contrast, over the eastern tropical Pacific and off the coast of Peru, dry air accompanied with cloud dissipation sinks, resulting in much drier weather there.

Note: The pattern of air rising in the west and falling in the east with westward moving air at the surface is referred to as the Walker Circulation.

El Niño–Southern Oscillation (ENSO): **El Niño**
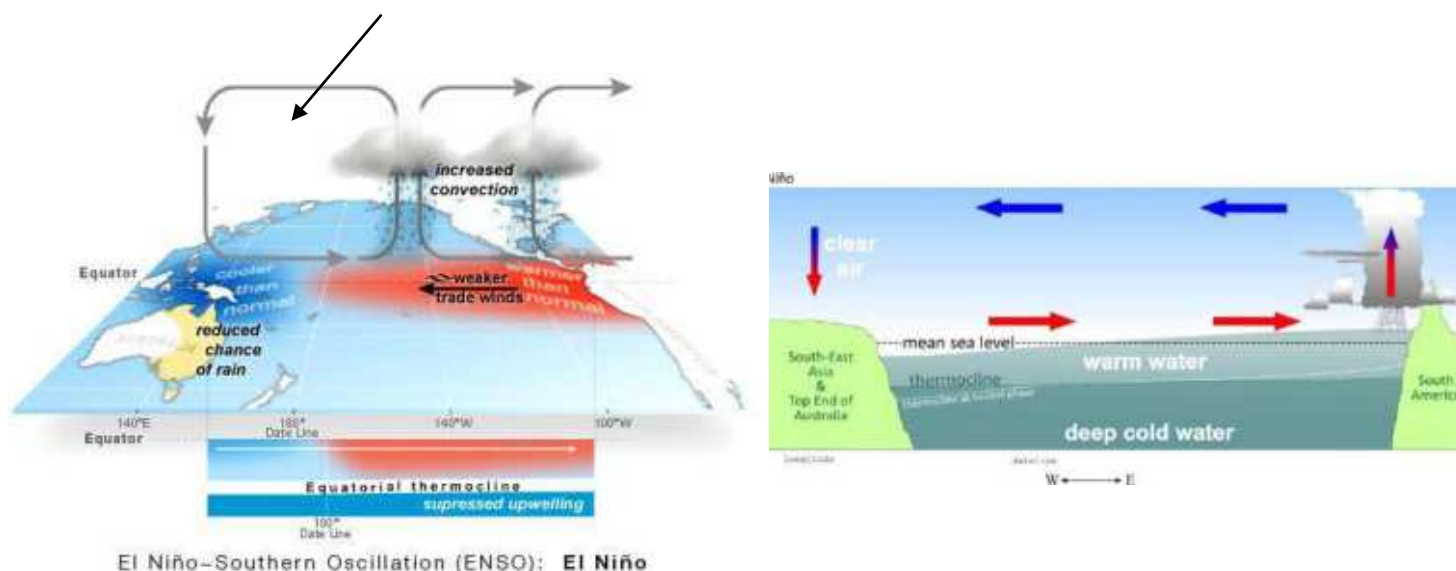
El Niño phase

- The Trade Winds loses most of their strength in an El Niño phase, and may even reverse into a westerly wind (west to east) direction.
- As a result, warm surface water from tropical South-East Asiaflows towards the coast of South America.
- Off the coast of South America, the thermocline sinks. The cold deep water no longer upwells into the surface layer of the ocean.
- The source of nutrients is cut off, which has a subsequent effect on fishing stocks off South America.
- Nearby, over the eastern tropical Pacific, warm surface water evaporates. This results in more rainfall than usual there.
- Conversely, on the other side of the Pacific, Indonesia and neighbouring countries are drier than usual during an El Niño.

The Global Impact of El Niño
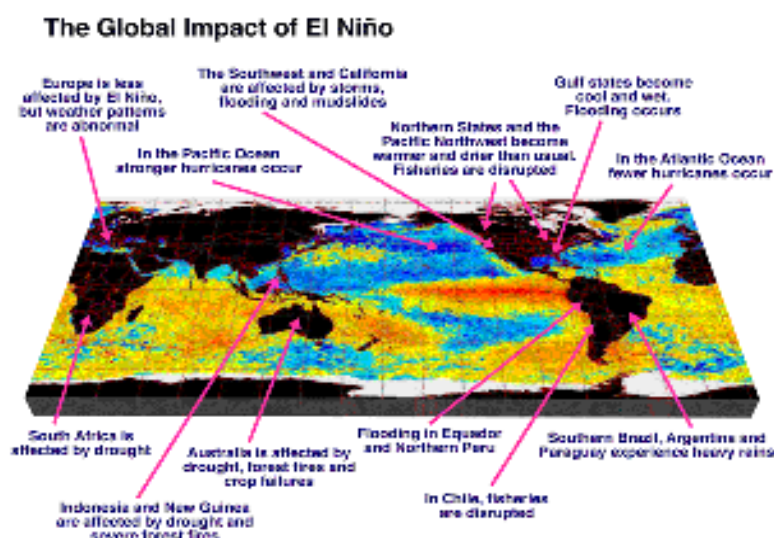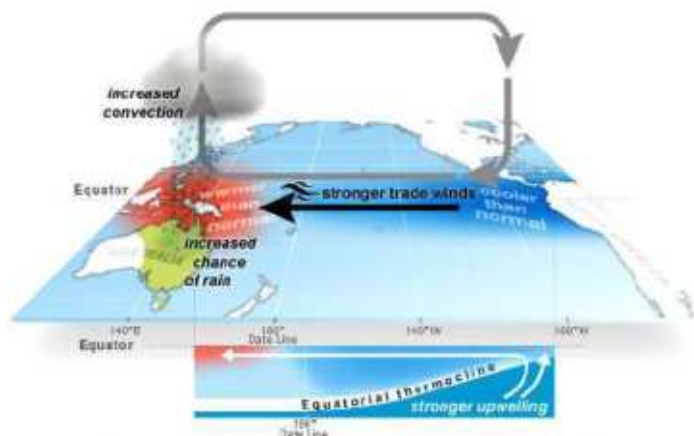
El Niño–Southern Oscillation (ENSO): La Niña
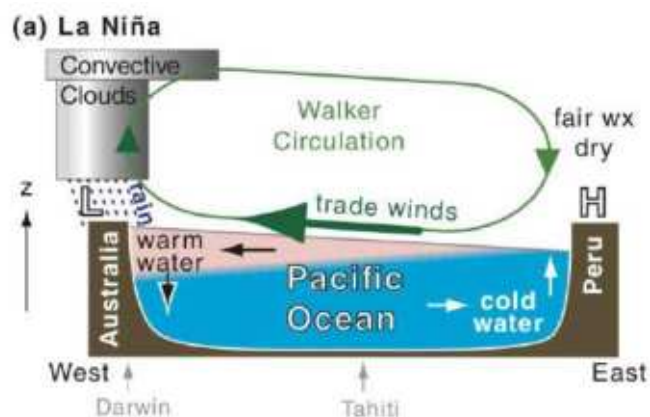
La Niña Phase

- In this pattern, trade winds blow warm water at the ocean's surface from South America to Indonesia.
- As the warm water moves west, cold water from the deep rises to the surface near the coast of South America.
- Since, La Niña blows all of this warm water to the western Pacific places like Indonesia and Australia get much more convectionalrain than usual.
- However, the cold water in the eastern Pacific causes less rain clouds to form there. So, places like the southwestern United States are much drier than usual.
- La Nina can also lead to more lightning activity within the Gulf of Mexico and along the Gulf Coast.
- And more tropical cyclones—which include hurricanes—forming in the deep tropics (near the islands in the Caribbean, for example).
- In a nutshell, La Nina causes drought in the South American countries of Peru and Ecuador, heavy floods in Australia, high temperatures in Western Pacific, Indian Ocean, off the Somalian coast and a comparatively better monsoon rains in India.

Impact of La Niña

ENSO and India

El Nino and La Nina impact India greatly.

El Nino during winter causes warm conditions over the Indian subcontinent and during summer, it leads to dry conditions and deficient monsoon. Whereas, La Nina results in better than normal monsoons in India.

India experienced deficient rainfall during El Nino years 2002 and 2009 whereas monsoon was normal during El Nino years 1994 and 1997. It means that in about 50 per cent of the year with El Nino during summer, India experienced droughts during monsoon.

Crops like Paddy, Maize, Groundnut, Guar, Castor, Tur, Moong and Bajra suffer due to El Nino.

No cyclones in India in October 2020

- October to December period is among the favourable months for the development of cyclones in the Bay of Bengal and the Arabian Sea.
- This year, however, October passed without witnessing a cyclonic storm.
- This is due to the **weak La Nina conditions** along the equatorial Pacific Ocean.
- Cooler than normal sea surface temperatures over this region—termed as La Nina— has been prevailing since August this year.
- Also, because **Madden Julian Oscillation (MJO) was positioned in a favourable phase**, the low-pressure systems intensified maximum only up to a deep depression.
- Also, there was the high wind shear noted between the different atmospheric levels.
- The high vertical wind shear—— created due to **huge wind speed difference** observed between higher and lowers atmospheric levels prevented the low-pressure systems and depression from strengthening into a cyclone. For cyclones to develop a low vertical wind shear is a must. (****Refer to previous article to know about wind shear).**

What is MJO?

- The Madden-Julian Oscillation (MJO) is the major fluctuation in tropical weather on weekly to monthly timescales.
- The MJO can be characterized as an **eastward moving 'pulse' of cloud and rainfall near the equator** that typically recurs every 30 to 60 days.
- The MJO consists of two parts, or phases: one is the **enhanced rainfall (or convective) phase** and the other is the **suppressed rainfall phase**.
- Strong MJO activity often dissects the planet into halves: one half within the enhanced convective phase and the other half in the suppressed convective phase.
- These two phases produce opposite changes in clouds and rainfall and this entire dipole (i.e., having two main opposing centers of action) propagates eastward.
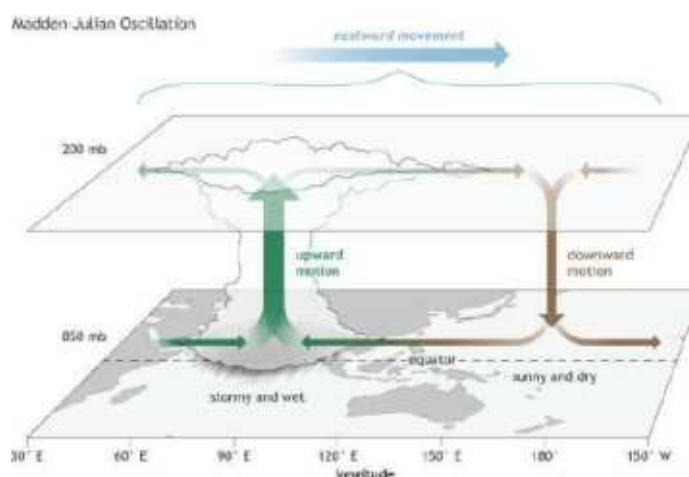
Digging deeper

- In the enhanced convective phase, winds at the surface converge, and air is pushed up throughout the atmosphere.
- At the top of the atmosphere, the winds diverge. Such rising air motion in the atmosphere tends to increase condensation and rainfall.
- In the suppressed convective phase, winds converge at the top of the atmosphere, forcing air to sink and, later, to diverge at the surface
- As air sinks from high altitudes, it warms and dries, which suppresses rainfall.
- It is this entire dipole structure, illustrated in the Figure above that moves west to east with time in the Tropics, causing more cloudiness, rainfall, and even storminess in the enhanced convective phase, and more sunshine and dryness in the suppressed convective phase.

How does MJO affect Indian Monsoon?

- The journey of MJO goes through eight phases, as the oscillation propagates from the Indian Ocean through the Pacific Ocean and into the Western Hemisphere.
- When it is over the Indian Ocean during the Monsoon season, it brings good rainfall over the Indian subcontinent.
- On the other hand, when it witnesses a longer cycle and stays over the Pacific Ocean, MJO brings bad news for the Indian Monsoon.

- Basically, it is linked with enhanced and suppressed rainfall activity in the tropics and is very important for the Indian monsoonal rainfall.
- If the periodicity of MJO is nearly 30 days then it brings good rainfall during the Monsoon season.
- If it is above 40 days in Pacific then MJO doesn't give good showers and could even lead to a dry Monsoon.
- **Shorter the cycle of MJO, better the Indian Monsoon**. Simply because, it then visits the Indian Ocean more often during the four month-long period.
- Presence of MJO over the Pacific Ocean along with an El Nino is detrimental for Monsoon rains.

NATIONAL MONSOON MISSION   GS-I   GEOGRAPHY

Context
- For every rupee spent by the government on the National Monsoon Mission and High-performance Computing programs of the Ministry of Earth Sciences (MoES), the country would gain economic benefits worth fifty rupees----National Council of Applied Economic Research (NCAER) Report

NMM
- Ministry of Earth Sciences (MoES) had launched **'National Monsoon Mission' (NMM) in 2012**.

Vision
To develop a state-of-the-art dynamical prediction system for monsoon rainfall on different time scales.

Objectives
✓ To improve Seasonal and Intra-seasonal Monsoon Forecast
✓ To improve Medium Range Forecast.

Participating Institutions
✓ Indian Institute of Tropical Meteorology, Pune
✓ National Centre for Medium Range Weather Forecast, Noida
✓ India Meteorological Department, New Delhi

Significance of NMM
- Indian Summer Monsoon Rainfall amounts to more than 80% of the annual rainfall over India.
- And the dependence of agriculture, drinking water and energy production on it makes it the lifeline for a large fraction of the world's population.
- The economy, life and property in the region are vulnerable to significant variability of the Monsoon. Thus, Monsoon has always been critical for India's economy.
- **For example:** Accurate forecasts of climate 3–6 months ahead of time can potentially allow farmers to make decisions to reduce unwanted impacts or take advantage of expected favorable climate. Like: Strategic Business Planning, Seed purchase, Schedule planting, Schedule irrigation and nutrients application.
- New approaches like **high resolution, super parameterizations, data assimilation** etc.under NMM have improved the monsoon prediction manifold.
- India is advancing rapidly in weather forecast, in terms of quality of system and information to end users- **U.S Weather agency.**
- NMM has supported focused research by national and international research groups with definitive objectives to improve monsoon predictions.
- It has set upframework for
  ✓ generating dynamical forecasts and
  ✓ improving skill of forecasts.

LUHRI STAGE I HYDRO ELECTRIC PROJECT   GS-I   GEOGRAPHY

Context
- Recently, the Cabinet Committee on Economic Affairs has approved the investment of Rs.1810.56 crore for Luhri Stage-I Hydro Electric Project.

About

- The 210 MW Luhri Stage-I Hydro Electric Project is located on river Satluj.
- The region is is situated in Shimla & Kullu districts of Himachal Pradesh.
- This project will generate 758.20 million units of electricity annually.

Significance

- The power generated from the Project will help in providing Grid stability and will improve the power supply position.
- Besides, the project would also lead to reduction of 6.1 lakh Tons of carbon dioxide from environment annually, thus contributing to improvement in air quality.
- The construction activities of the project will result in direct & indirect employment and will contribute to overall socio-economic development of the State.
- Further, Himachal Pradesh will benefit with free power worth around Rs. 1140 crore from Luhri Stage-I Hydro Electric Project, during Project Life Cycle of 40 years.
- **The Project Affected Families will be provided with 100 units of free electricity per month for ten years.**

Major Dams of Himachal Pradesh

Name of Dam	District	River	Type	Purpose
Largi	Mandi	Ravi	Concrete	Hydroelectric
Malana I	Kullu	Ravi	Earthen+ Gravity	Do
Nathpa Jhakri	Shimla	Ravi	Masonry	Do
Pandoh	Mandi	Ravi	Rockfill	Irrigation +Hydroelectric
Parbati II	Kullu	Ravi	Masonry	Hydroelectric
Pong	Kangra	Ravi	Earthen+Rockfill	Multipurpose, Irrigation, Hydro
Bhakra	Bilaspur	Sutlej	concrete gravity dam	Multipurpose, Forms Gobind Sagar reservoir.
Chamera	Chamba	Ravi	Concrete gravity	Hydroelectric

**Refer to the previous edition for Types of Dams

Sutlej River

- **Rises from :** Manasarovar-Rakas Lakes in western Tibet.
- **Enters India:** Through Shipki La on the Tibet-Himachal Pradesh boundary.
- **Forms:** Bhakra dam
- **Joined by:** Beas at Harike.
- **Forms:** Boundary between India and Pakistanat Ferozepur to Fazilka.
- **Receives:** Drainage of the Ravi, Chenab and Jhelum rivers.
- **Joins:** Indus River above Mithankot.
- 1,050/1450 km flows in India.

ONE NATION ONE ELECTION / *GS-II POLITY*

Context
- Prime Minister again raised the pitch for **"One Nation, One Election"** and a **single voter list for all polls in order to prevent the impact of the model code of conduct** on development works every few months due to frequent spread-out polls.

Background
- Elections are held at different places every few months and it **hampers the developmental work.**
- Therefore, it's a must to have a deep study and deliberation on 'One Nation, One Election'.
- It will reduce **wastage of time, energy and money.**

Pros of implementing simultaneous polls
- **Money and administrative expense** will be drastically cut, political parties spend a lot on elections campaigning
  o In **1951** elections, 53 political parties contested and the expense declared was 11 crores.
  o In recent **2019** elections, 610 political parties contested and the expense as per ADR is 60,000 crores
- **Governance:** Government will have time for **some constructive work** because imposition of model code of conduct for such a long time is hampering developmental and welfare activities.
- The ruling parties will be able to focus on legislation and governance rather than having to be in campaign mode forever. The entire State and District level administrative and security machinery will be busy with the conduct of elections twice in a period of five years as per the current practice.
- Reduce enormous economic costs that are otherwise incurred in conducting elections, separately and takes a bit off the back of the exchequer.
- It provides the parties in power to be a lot more bandwidth to be focussed on good governance for the welfare of the people rather than to be held in the loop of constant elections.
- The Law Commission also predicts a large boost in the voter turnout if this idea were to come about.
- Large numbers of teachers are involved in the electoral process which causes maximum harm to the education sector.

Cons of implementing simultaneous polls
- Large national parties would reap the economies of scale of one large election every five years, to the disadvantage of regional parties.
- **Issues at the centre and the state level** are often found to be a lot **different** from each other and hence calls for a **unique modus operando** at both levels.
- It has been proposed that **the judgment of the voters is likely to get affected** if the state and national polls were to held simultaneously mainly because of the fundamental difference between national and state issues.
- One of the most important tools for good governance as enshrined in our constitution is that of accountability.
- To have the political parties to be held in the loop of elections constantly will incentivise them to be a lot more accountable and actively work and contribute for the welfare of the people.
- In order to conduct the elections at the state and the centre in tandem, **President's rule** might have to be imposed for a certain period in the concerned state which would **go against the ideals of democracy and federalism.**

What needs to be done to conduct simultaneous pools?
- **Amendments to the constitution:** To conduct simultaneous elections in India, many amendments to the constitution of India are to be made.
- **Article 83** of the Constitution provides for the tenure of both Houses of the Parliament (Lok Sabha and Rajya Sabha).
- **Article 83(2)11** provides for a term of five years for Lok Sabha, from the date of its first sitting unless dissolved earlier.
- **Article 172 (1)** provides for five year tenure for State Legislative Assembly from the date of its first sitting.
- **Article 85 (2)(b)** of the Constitution of India provides the President with the power to dissolve Lok Sabha. Similar provision for dissolution of State Legislative Assemblies by the Governor of State is provided under Article 174 (2)(b)
- **The Representation of People Act 1951,** which covers various modalities of conducting elections in the country, also needs to be amended.

Challenges in holding these polls
- **Political parties were divided on the issue** of holding simultaneous elections during consultations with the Law Commission of India.
- Simultaneous elections would **involve arbitrary curtailment or extension of the tenure of a House** — the legal

propriety of which is questionable.
- It would undermine federalism as well as representative democracy.
- The **core problem is Parliamentary form of government** in which government is accountable and can fall before it completes its term.
- Need of **political consensus** because it requires constitutional amendment.

Recommendations
- **Law Commission of India** recommended simultaneous elections to Lok Sabha and State Legislative.
- 79th report of the **parliamentary standing committee on Law and Justice** recommended a two phase election schedule – one concurrent with Lok Sabha elections, the second in the mid-term of the Lok Sabha.
- The **Election Commission** has also extended its in-principle support for the simultaneous elections.

Way forward
- 'One India One Election' would be a good change if **it could be carried out with the proper execution of policies and rules, taking care of the rising need for good administrative staff and security.**
- Proper consultations with experts and all stakeholders are a prerequisite before moving to such polls.

ELECTORAL BONDS / GS-II POLITY

Context
- Electoral bonds worth Rs. 282.29 crores were sold in October ahead of the Bihar Assembly election, the State Bank of India said in response to a Right to Information (RTI) query.

Salient points of Electoral Bonds

Electoral Bonds Scheme Notified
To help cleanse the political funding system in the country

Nature
- Bearer instrument in the nature of a Promissory Note
- Interest free banking instrument

Eligibility
- A citizen of India or a body incorporated in India
- On fulfillment of all the extant KYC norms
- By making payment from a bank account

Value
- Issued/ Purchased in multiples of Rs.1,000, Rs.10,000, Rs.1,00,000, Rs.10,00,000 and Rs.1,00,00,000
- Available from the Specified Branches of the State Bank of India (SBI)

Lifespan
- Shelf life of only 15 days
- Can be used for making donation only to the political parties registered u/s 29A of the Representation of the Peoples Act, 1951

Period of Purchase
- Available for purchase for a period of 10 days each in the months of January, April, July and October, as may be specified by the Government

Benefits of Electoral Bonds

WILL BRING substantial transparency in political donations against the present system of contributions in the election funding mechanism

HOW MUCH funding comes, what kind of funding it is, the source of funding and where it will be spent will be known clearly

NON DISCLOSURE of recipients will ensure people are free to donate to any political party of their choice

WILL REINFORCE the idea of moving away from a cash system towards clean money which cheque system could not achieve

15 DAYS between buying and selling will ensure they don't turn into a parallel economy

Filtering Political Parties formed on pretext of tax evasion

Curbing Black Money in Political

Preventing Parallel currency

Benefits of Electoral Bonds

Principle of anonymity to prevent penalising donors.

Filing of return to EC

Transparency & Accountability

Controversy around Electoral Bonds
- **Lack of Transparency:**

- o As it **conceals from public scrutiny the identity** of the source of funds.
- **Government control:**
  - o The **government is always in a position to know who the donor is** because the bonds are purchased through the SBI which **threatens to push the process in favour of whichever political party is ruling** at the time.
- **Anonymity:**
  - o The electoral bonds scheme, by making the bonds anonymous, and by removing the requirements on companies to disclose which parties they are donating to, deprives voters of this crucial information, and thereby violates their right to know.
  - o In a number of previous decisions, the Supreme Court has held that freedom of speech and expression under Article 19(1)(a) of the Constitution also includes a 'right to know' about the activities of political parties and candidates, including their funding. This is essential for voters to make an informed choice and exercise their freedom of expression when voting.

Other acts which have made electoral funding more opaque and created suspicions around electoral bonds

No limit on corporate donations

- Previously, there was a cap on the amount of money that a company could donate: 7.5 percent of its average net profits during the previous three financial years. **This cap was removed by Finance Act 2017.**
- elimination of the provision that a **corporation must be three years in existence,** undercuts the intent of the scheme.

No disclosure by corporate donors

- Previously, companies needed to disclose the amount of money donated and the names of the political parties to which they donated money in their profit and loss accounts **However, the requirement to disclose the names of the political parties was removed by Finance Act 2017.**

Donations by foreign companies

- India has strict laws against political parties receiving funding from a "foreign source". Under the old law in 1976 and the new law in 2010, political parties cannot even accept donations from an Indian company if it is a subsidiary of a foreign company.
- **Finance Act 2016 made a retrospective amendment to the 2010 law, which meant the restriction would not apply to such Indian subsidiaries** if their share capital is below a specified amount. **Finance Act 2018 extended the retrospective protection all the way back to 1976.**

Way Forward

- **Effective regulation of political financing** through more powers to Election commission like deregistering a party,
- **Ensure** faster resolution of cases involving misuse of money of elections and prohibiting paid news through special courts.
- **State funding of elections as recommended by Indrajit Gupta Committee (1998)** to establish a fair playing field for parties with less money and remove electoral funding entirely. However, a number of concerns related to concerns of smaller parties, fake parties, freedom of voters and state capacity have to be taken into account before initiating this.

Conclusion

- Successive governments have promised electoral reforms and have setup committees to look into the matter. It is imperative that the authorities enforce these reforms and cleanse our electoral process of the vicious circle of corruption and black money that threatens the very foundation of our democracy.
- Removal of the cap on corporate donations and the companies must disclose details of their political funding
- Bring political parties under RTI
- Unless drastic and radical steps are taken to cleanse public offices by the government, political parties and people at large, corruption will continue to corrode the vitals of the country.
- State funding of election recommended by Dinesh Goswami committee

OFFICE OF PROFIT / *GS-II POLITY*

Context

- The Joint Parliamentary Committee on Office of Profit deliberated on whether a Parliamentarian can continue to teach at University and if this draws the provisions of "Office of Profit" rules.

What is an office of profit?

- It is a position in the government, which cannot be held by an MLA or an MP.
- The post can yield salaries, perquisites and other benefits.

- The origin of this term can be found in the **English Act of Settlement, 1701**.
- Under this law, "no person who has an office or place of profit under the King, or receives a pension from the Crown, shall be capable of serving as a member of the House of Commons."
- This was instituted so that there wouldn't be any undue influence from the royal household in administrative affairs.
- Under the provisions of **Article 102 (1) and Article 191 (1) of the Constitution**, an MP or an MLA (or an MLC) is **barred from holding any office of profit under the Central or State government.**
- The argument is that the lawmakers who hold the government accountable should not be susceptible to government influence by way of holding any post where they get salary or allowances from the government.
- This law **seeks to enforce a basic feature of the Constitution — the principle of separation of power between the legislature and the executive.**

What constitutes an 'office of profit'?

- The law does not clearly define what constitutes an office of profit but the definition has evolved over the years with interpretations made in various court judgments. An office of profit has been interpreted to be a position that brings to the office-holder some financial gain, or advantage, or benefit. The amount of such profit is immaterial.

In 1964, the Supreme Court ruled that the test for determining whether a person holds an office of profit is the test of appointment. Several factors are considered in this determination including factors such as:

(i) whether the government is the appointing authority,

(ii) whether the government has the power to terminate the appointment,

(iii) whether the government determines the remuneration,

(iv) what is the source of remuneration, and

(v) the power that comes with the position.

What does the Constitution say about holding an 'office of profit'?

- Under the provisions of Article 102 (1) and Article 191 (1) of the Constitution, an MP or an MLA (or an MLC) is barred from holding any office of profit under the central or state government. The articles clarify that *"a person shall not be deemed to hold an office of profit under the government of India or the government of any state by reason only that he is a minister"*. The Constitution specifies that the number of ministers including the Chief Minister has to be within 15% of the total number of members of the assembly (10% in the case of Delhi, which is a union territory with legislature).

Can exemptions be granted under the law?

- Provisions of Articles 102 and 191 also protect a legislator occupying a government position if the office in question has been made immune to disqualification by law.
- In the recent past, several state legislatures have enacted laws exempting certain offices from the purview of office of profit.
- Parliament has also enacted the **Parliament (Prevention of Disqualification) Act, 1959**, which has been amended several times to expand the exempted list.

Is there a bar on how many offices can be exempted from the purview of the law?

- There is no bar on how many offices can be exempted from the purview of the law.
- It was reported in 2015 that all 60 MLAs of the Nagaland Assembly had joined the ruling alliance. The Nagaland Chief Minister appointed 26 legislators as parliamentary secretaries in July 2017.
- Goa, an assembly of 40 MLAs, exempted more than 50 offices by means of an ordinance issued in June last year.
- Puducherry, an assembly of 33 MLAs, exempted more than 60 offices by passing an amendment bill in 2009.
- In Delhi, the 21 parliamentary secretaries added to the seven ministerial posts would constitute 40% of the 70-member legislature. In all, 20 states have similar provisions.
- This raises an important concern. If a large number of legislators are appointed to such offices, their role in scrutinising the work of the government may be impaired. **Thus, this could contravene the spirit of Articles 102 and 191 of the Constitution.**

What is the debate around making appointments to the office of parliamentary secretaries?

- Interestingly, the appointment of legislators as parliamentary secretaries, in spite of the office being exempted from purview of the office of profit law, has been struck down by courts in several states.

Why has the appointment as a parliamentary secretary been struck down while other offices are allowed to be exempt from the purview of the law?

- **Calcutta High** Court in a judgment in 2015 which held that since the position may confer the rank of a junior minister on the legislator, the appointment of MLAs as parliamentary secretaries was an attempt by state governments to bypass the constitutional ceiling on the number of ministers.
- In 2009, the **Bombay High Court** also held that appointing parliamentary secretaries of the rank and status of a Cabinet Minister is in violation of **Article 164 (1A)** of the Constitution.
- The Article specifies that the number of ministers including the Chief Minister should not exceed 15% of the total number of members in the assembly.

What do parliamentary secretaries do?

- In the Westminster system, a parliamentary secretary is a Member of Parliament who assists a Minister in their duties.
- Prime Ministers and Chief Ministers usually appoint parliamentary secretaries from their own parties.

Why should an MLA or an MP not hold an office of profit?

- According to Articles 102(1)(a) and 191(1)(a) of the Constitution, an MP or MLA is barred from holding an office of profit as it can put them in a position to gain a financial benefit.
- "A person shall be disqualified for being chosen as, and for being, a member of either House of Parliament, (a) if he holds any office of profit under the Government of India or the Government of any State, other than an office declared by Parliament by law not to disqualify its holder," says the law.
- Under the **Representation of People Act** too, **holding an office of profit is grounds for disqualification.**

MAHAJAN COMMISSION   *GS-II   POLITY*

Context

- Maharashtra minister sparked a controversy, when he called the incorporation of **Belgaum (Belagavi**), Karwar and Nipani areas of Karnataka into Maharashtra a "dream" of Shiv Sena founder Balasaheb Thackeray.
- The controversy comes weeks after the Maharashtra government asked all its ministers to wear black bands on November 1–celebrated in Karnataka as Rajyotsava or state Formation Day– to express support for Marathi-speaking people in the region.

Genesis of the dispute

- The erstwhile Bombay Presidency, a multilingual province, included the present-day Karnataka districts of Vijayapura, Belagavi, Dharwad and Uttara-Kannada.
- In 1948, the Belgaum municipality requested that the district, having a predominantly Marathi-speaking population, be incorporated into the proposed Maharashtra state.
- However, the **States Reorganisation Act of 1956**, which divided states on linguistic and administrative lines, **made Belgaum and 10 talukas of Bombay State a part of the then Mysore State (which was renamed Karnataka** in 1973).

The Mahajan Commission report

- While demarcating borders, the Reorganisation of States Commission sought to include talukas with a Kannada-speaking population of more than 50 per cent in Mysore.
- Opponents of the region's inclusion in Mysore argued, and continue to argue, that Marathi-speakers out numbered Kannadigas who lived there in 1956.
- In September 1957, the Bombay government echoed their demand and lodged a protest with the Centre, leading to the **formation of the Mahajan Commission under former Chief Justice Mehr Chand Mahajan in October 1966.**
- The Commission, which submitted its report in August 1967, recommended that **264 villages be transferred to Maharashtra (which formed in 1960) and that Belgaum and 247 villages remain with Karnataka.**
- **Maharashtra rejected the report**, calling it biased and illogical, and demanded another review.
- Karnataka welcomed the report, and has ever since continued to press for implementation, although this **has not been formally done by the Centre.**

Later developments

- Maharashtra continues to claim over 814 villages along the border, as well as Belgaum city, which are currently part of Karnataka.

- Successive governments in Maharashtra have demanded their inclusion within the state– a claim that Karnataka contests.
- In 2004, the Maharashtra government moved the Supreme Court for a settlement of the border dispute under Article 131(b) of the Constitution, demanding 814 villages from Karnataka on the basis of the theory of village being the unit of calculation, contiguity and enumerating linguistic population in each village. The case is pending in the apex court.

ARTICLE 32 / GS-II POLITY

Context
- A Supreme Court Bench headed by Chief Justice of India S A Bobde observed that it is "trying to discourage" individuals from filing petitions under Article 32 of the Constitution.
- The observation came during the hearing of a petition seeking the release of journalist Siddique Kappan, who was arrested with three others while on their way to Hathras, Uttar Pradesh, to report on an alleged gangrape and murder.

What is Article 32?
- It is one of the **fundamental rights** listed in the Constitution that each citizen is entitled.
- Article 32 deals with the **'Right to Constitutional Remedies'**, or affirms the right to move the Supreme Court by appropriate proceedings for the enforcement of the rights conferred in **Part III of the Constitution.**
- It states that the **Supreme Court "shall have power to issue directions or orders or writs, including writs in the nature of habeas corpus, mandamus, prohibition, quo warranto and certiorari**, whichever may be appropriate, for the enforcement of any of the rights conferred by this Part".
- The right guaranteed by this Article "**shall not be suspended except as otherwise provided for by this Constitution".**
- The Article is included in Part III of the Constitution with other fundamental rights including to **Equality, Freedom of Speech and Expression, Life and Personal Liberty, and Freedom of Religion.**
- Only if any of these fundamental rights is violated can a person can approach the Supreme Court directly under Article 32.
- During the Constituent Assembly debates in December 1948, a discussion on this fundamental right (in the draft, it is referred to as Article 25), Dr B R Ambedkar had said, "It is the very soul of the Constitution and the very heart of it…"
- It was "one of the greatest safeguards that can be provided for the safety and security of the individual".
- It gives a person the right to approach the Supreme Court as a remedy if fundamental rights are violated, "it is a right fundamental to all the fundamental rights" guaranteed under the Constitution.
- The Article **cannot be suspended except** during the **period of Emergency**.

Can High Courts be approached in cases of violation of fundamental rights?
- Both the **High Courts and the Supreme Court** can be approached for violation or enactment of fundamental rights through five kinds of writs:
  o **Habeas corpus** (related to personal liberty in cases of illegal detentions and wrongful arrests)
  o **Mandamus** — directing public officials, governments, courts to perform a statutory duty;
  o **Quo warranto** — to show by what warrant is a person holding public office;
  o **Prohibition** — directing judicial or quasi-judicial authorities to stop proceedings which it has no jurisdiction for; and
  o **Certiorari** — re-examination of an order given by judicial, quasi-judicial or administrative authorities.
- In civil or criminal matters, the first remedy available to an aggrieved person is that of trial courts, followed by an appeal in the High Court and then the Supreme Court.
- When it comes to violation of fundamental rights, an individual can approach the **High Court under Article 226 or the Supreme Court directly under Article 32**.
- **Article 226**, however, is **not a fundamental right** like Article 32.

What have been the Supreme Court's recent observations on Article 32?
- In the case of the journalist Siddique Kappan, the court asked why the petitioners could not go to the High Court.
- In another case invoking Article 32, filed by a Nagpur-based man arrested in three cases for alleged defamatory content against Maharashtra Chief Minister Uddhav Thackeray and others, the same Bench directed him to approach the High Court first.

And what have been its observations over the years?
- In Romesh Thappar vs State of Madras (1950), the Supreme Court observed that Article 32 provides a "guaranteed" remedy for the enforcement of fundamental rights.
- "This Court is thus constituted the protector and guarantor of fundamental rights, and it **cannot, consistently with the responsibility so laid upon it, refuse to entertain applications seeking** protection against infringements of such

rights," the court observed.

- Constitutional experts say that it is **eventually at the discretion of the Supreme Court** and each individual judge to decide whether an intervention is warranted in a case, which could also be heard by the High Court first.

MEDIA REGULATION | *GS-II POLITY*

Context
- I&B Ministry has proposed guidelines bringing digital media under the government's control.

What are OTT Media?
- An over-the-top (OTT) media service is a streaming media service offered directly to viewers via the Internet.
- OTT bypasses cable, broadcast, and satellite television platforms, the companies that traditionally act as a controller or distributor of such content.
- The term is most synonymous with subscription-based video-on-demand (SVoD) services that offer access to film and television content.
- They are typically accessed via websites on personal computers, as well as via apps on mobile devices (such as smartphones and tablets), digital media players, or televisions with integrated Smart TV platforms.

Current regulatory architecture
- **Currently, there is no law or autonomous body governing digital content. The recent move will give the government control over OTT platforms,** which were unregulated till now.
- From time to time, the government had indicated the necessity to monitor these platforms.
- In October 2019, the government had indicated that it will issue the "negative" list of don'ts for the video streaming services like Netflix and Hotstar.
- It also wanted the platforms to come up with a self-regulatory body on the lines of the News Broadcasting Standards Authority.

Need for Government Control
- A proper framework is needed, as there is a significant shift of viewership from traditional media platforms to digital media.
- At present, there are 560 million internet users on OTT platforms.
- With the prevalence of mobile phones and the possible threat to the young generation by the content on the OTT platforms can create, there is a need for regulating the content.
- Since 2019, more cases were filed in the Supreme Court and various high courts over unregulated content on the OTT platforms.
- According to a survey, India had 17 crore OTT platform users by the end of 2019.
- The revenue generated by the OTT industry in 2019 was close to Rs 500 crore and is expected to become a Rs 4000 crore market by 2025.
- Depending on the platform at present, there are autonomous, government, and self-regulatory bodies for entertainment and news providers.
- A model was suggested by the Internet and Mobile Association of India (IAMAI) but the government rejected the model as it lacked independent third party-monitoring, a well-defined code of ethics, and did not enunciate the prohibited content.
- The government proposed a Digital Curated Content Complaints Council (DCCC).
- THE government prohibited the content which includes any malicious content that intends to outrage the religious sentiments, content that promotes or encourages terrorism, and content that has been banned for exhibition or distribution by law.
- Anticipating the government's intervention, in January 2019, video streaming services had signed a self-regulatory code that

> ### Regulation of other media
>
> - There is a Press Council for print media, which is a statutory quasi-judicial authority.
> - For television news, there is the News Broadcasting Standards Authority which is a self-regulatory body.
> - Under I&B Ministry, there is the Central Board of Film Certification, the Broadcasting Content Complaints Council which is self-regulatory and independent for television media, and the Advertising Standards Council which is a self-regulatory body.
> - Any violation of the programming and advertising codes under the Cable Television Network (Regulation) Act, 1995, the I&B Ministry can penalize the television channels.
> - With the help of the Electronic Media Monitoring Centre, complaints can be directly sent to the Ministry or through an internal mechanism.
> - In November 2019, Government brought a draft Registration of Press and Periodicals Bill (RPP) which replaced the 150-year-old Press and Registration of Books Act, 1867.
> - The draft defined the news on digital media as the news in the digitized format which includes the text, audio, video, and graphics that can be transmitted over the internet, computer, and mobile networks.

laid down a set of guiding principles for content on these platforms.

The code adopted by the OTTs prohibited five types of content

- Content that deliberately and maliciously disrespects the national emblem or national flag,
- Any visual or storyline that promotes child pornography
- Any content that "maliciously" intends to outrage religious sentiments
- Content that "deliberately and maliciously" promotes or encourages terrorism and
- Any content that has been banned for exhibition or distribution by law or court
- The government had refused to support this code.

Cons of govt regulating OTT platforms

- The government's move bringing online news and current affairs portals along with "films and audio-visual programmes made available by online content providers" under the Ministry of Information and Broadcasting is as brazen, because this **is an attack on the free press, targeted at a section that has been bold and forthright in speaking truth to power.**
- The Union government has brought Over The Top (OTT) platforms, or video streaming service providers such as Netflix, Amazon Prime and others, **under the ambit of the Ministry of Information and Broadcasting.**
- It **can be seen as censorship**.
- It will suppress media freedom, targeting opinions which may be contrary to beliefs of ruling elite.
- It seeks to **divide and rule the press** by creating an **artificial distinction between the new-age digital media** (the stand-alone news portals which are already struggling to stay afloat) — which is the media of the future, the **media of the millennial generation — and the older print and TV news media.**
- There is no comparison between the Press Council of India and the NBA as professional bodies on the one hand and the Ministry of Information and Broadcasting on the other.

Way forward

- Regulation was essential but we have to keep in mind that free speech, creativity and entrepreneurship do not suffer due to an excessive or politically biased regulation.

CONTEMPT OF COURT   *GS-II   POLITY*

Context

- Attorney General of India gave his consent for the initiation of criminal contempt proceedings against stand-up comedian Kunal Kamra for his tweets following the Supreme Court's decision to grant interim bail to television anchor Arnab Goswami.

What is contempt of court?

- According to the **Contempt of Courts Act, 1971,** contempt of court can either be civil contempt or criminal contempt.
- **Civil contempt** means wilful disobedience of any judgment, decree, direction, order, writ or other process of a court, or wilful breach of an undertaking given to a court.
- **Criminal contempt,** on the other hand, is attracted by the publication (whether by words, spoken or written, or by signs, or by visible representations, or otherwise) of any matter or the doing of any other act whatsoever which:
- scandalises or tends to scandalise, or lowers or tends to lower the authority of, any court; or
- prejudices, or interferes or tends to interfere with, the due course of any judicial proceeding; or
- interferes or tends to interfere with, or obstructs or tends to obstruct, the administration of justice in any other manner.

Need for Contempt Law

- To insulate the judiciary from unfair attacks and prevent a sudden fall in the judiciary's reputation in the public eye.
- It helps judges to do their duties of deciding cases without fear, favour, affection or ill will.

What does not account to contempt?

- Fair and accurate reporting of judicial proceedings will not amount to contempt of court.
- Nor is any fair criticism on the merits of a judicial order after a case is heard and disposed of.

Is truth a defence against a contempt charge?

- For many years, the truth was seldom considered a defence against a charge of contempt.
- There was an impression that the judiciary tended to hide any misconduct among its individual members in the name of protecting the image of the institution.

- The Act was amended in 2006 to introduce truth as a valid defence if it was in the public interest and was invoked in a bonafide.

> **Constitutional Background:**
> **Article 129:** Grants Supreme Court the power to punish for contempt of itself.
> **Article 142(2):** Enables the Supreme Court to investigate and punish any person for its contempt.
> **Article 215:** Grants every High Court the power to punish for contempt of itself.
> Section 10 of The Contempt of Courts Act of 1971 defines the power of the High Court to punish contempts of its subordinate courts.
> The Constitution also includes contempt of court as a reasonable restriction to the freedom of speech and expression under Article 19, along with elements like public order and defamation.

But why is the A-G's consent needed to initiate contempt of court proceedings?

- Subsection 1 of Section 15 (Cognizance of criminal contempt in other cases) of The Contempt of Courts Act, 1971 reads:
- "In the case of a criminal contempt, other than a contempt referred to in Section 14 ("Procedure where contempt is in the face of the Supreme Court or a High Court"), the Supreme Court or the High Court may take action on its own motion or on a motion made by

(a) the Advocate-General, or

(b) any other person, with the consent in writing of the Advocate-General…".

What is the punishment for contempt of court?

- Contempt of court may be punished with **simple imprisonment** for a term, which may extend to six months, or with fine, which may extend to **two thousand rupees**, or with both, provided that the accused may be discharged or the punishment awarded may be remitted on apology being made to the satisfaction of the court.

Issues with Contempt Law

- **Article 19(1)(a) of the Constitution** gives the right to freedom of speech and expression to all citizens, while "contempt provisions" curb people's freedom to speak against the court's functioning.
- The law is very subjective which **might be used by the judiciary arbitrarily to suppress their criticism by the public and create a chilling effect.**

Analysis of Bhushan's case

- The suomotu contempt proceedings initiated by a bench of the Supreme Court against Mr. Bhushan constitutes **an abuse of the court's contempt jurisdiction,** which—for good reason—is to be exercised sparingly and with circumspection.
- It is because, according to some experts, there is nothing in Mr. Bhushan's tweets that qualify as contempt of Court. These tweets in question appear to be in the realm of **perception and comment and don't seem to have transgressed into contempt.** The general principle on contempt is that one can criticise a judgment but you can't attribute motives to the judge.

Conclusion

- **A law for criminal contempt is completely asynchronous with our democratic system** which recognises freedom of speech and expression as a fundamental right.
- An excessively loose use of **the test of 'loss of public confidence', combined with a liberal exercise of suomotu powers,** can be dangerous, for it can amount to the Court signalling that it will not suffer any kind of critical commentary about the institution at all, regardless of how evidently problematic its actions may be.
- In this manner, **the judiciary could find itself at an uncanny parallel with the executive, in using laws for chilling effect.**

What needs to be done?

- Besides needing to **revisit the need for a law on criminal contempt,** even **the test for contempt needs to be evaluated.**
- whether **the contemptuous remarks in question actually obstruct the Court from functioning.**
- It should **not be allowed to be used as a means to prevent any and all criticism of an institution.**

Contempt laws in other countries

- Already, contempt has practically become obsolete in foreign democracies, with jurisdictions recognising that it is an archaic law, designed for use in a bygone era, whose utility and necessity has long vanished.
1. **Canada** ties its test for contempt to real, substantial and immediate dangers to the administration.
2. **American courts** no longer use the law of contempt in response to comments on judges or legal matters.

3. **In England,** the legal position has evolved.

SECTION 294 OF THE IPC

Context
- Model-actor Milind Soman booked under Section 294 (obscenity) of the Indian Penal Code, 1860 (IPC) along with other relevant sections of the Information Technology Act, 2000.

The history of obscenity under Section 294
- **Section 294 of the IPC** deals with obscenity, along with **Section 292 and 293.**
- Section 294 of the Indian Penal Code (IPC) punishes obscene acts or words in a public place.
- To be considered a crime, **the obscenity must cause "annoyance to others".**
- Saadat Hasan Manto, the great Urdu writer was tried for obscenity no less than six times – thrice, prior to 1947 (for his works Dhuan, Bu and Kali Shalwar) in British India under Section 292 of the IPC, and an equal number of times after independence in Pakistan (for Khol Do, ThandaGosht and UparNeecheDarmiyaan).
- A person convicted under this law can face up to three months imprisonment.
- The law on obscenity has evolved with the advent of the Internet and social media.
- Under Section 67 of the Information Technology Act, anyone who publishes or transmits obscene material in electronic form can be punished.

What is considered 'obscene'?
- The Oxford dictionary defines obscene as 'offensive or disgusting by accepted standards of morality and decency'.
- For a book or object to be obscene, Section 292 of the IPC says it must be lascivious or prurient or have the effect of depraving or corrupting someone.
- The terms 'lascivious', 'prurient', 'deprave' and 'corrupt' have not been clearly defined, leaving room for interpretation by courts.
- The courts, for their part, have developed tests to determine whether something is 'obscene'.
- In 1965, the landmark Ranjit Udeshi judgment of the Supreme Court adopted the Victorian-era **Hicklin test.**
  - The test assessed obscenity by the standard of someone who was open to immoral influences and was likely to be corrupted or depraved by the material in question. When approached from this angle, a wide range of material could be 'obscene'.
- In the Aveek Sarkar case of 2014, the Supreme Court did away with the British Hicklin test and adopted the American Roth test, instead.
- As per this test, obscenity was to be evaluated like an average person would, applying contemporary community standards.
- The contemporary community standards test takes into account the changing values in society. What was obscene a century or even a decade ago, need not be obscene now.

What about freedom of expression?
- The right to freedom of speech and expression is not absolute.
- **Article 19** of the Constitution of India, which guarantees the right also provides for reasonable restrictions on various grounds, including that of decency and morality.
- This means that free speech has to be balanced against the contemporary community standards of morality when it comes to penalising obscene acts or content.
- Indian courts have often settled the debate between morality and freedom in favour of artistic freedom, such as in the M F Hussain judgment of 2008 and the Perumal Murugan judgment of 2016.
- In the latter, the Supreme Court held that "art is often provocative and is not meant for everyone"— material cannot be labelled as obscene simply because it is unpalatable to one section of society.

Who has been prosecuted for 'obscenity' before?
- Obscenity laws in India predate Independence.
- They have been used in colonial India against writers such as Saadat Hasan Manto and IsmatChughtai whose works traversed themes of sexuality, including female sexuality.
- From novels like Lady Chatterley's Lover and paintings like 'Bharat Mata' to biopics like Bandit Queen and comedy shows like All India Bakchod, there have been allegations of obscenity against all kinds of art and popular culture.
- Hollywood actor Richard Gere faced an arrest warrant after he kissed Shilpa Shetty on her cheeks during an AIDS awareness programme in 2007.

- The Kiss of Love campaign, which was launched in 2014 in Kerala to protest moral policing by kissing in public, faced backlash from the same right-wing groups that it was trying to counter. The campaign was dropped after the government threatened action under obscenity laws.

Does the Section define obscenity?
- It's not defined in Section 294, but in 292, which provides for "Sale, etc of obscene books, etc".
- The form in which we find the provision was the result of amendments to the IPC in 1925.
- British were concerned about 'immoral' and 'filthy' material being readily available to the native youth. So, the government introduced a new Obscene Publications Bill in 1924, which led to the insertion of Section 292 in the IPC.
- The provision says "a book, a pamphlet, paper, writing, drawing, painting, representation figure or other object shall be deemed to be obscene if it is lascivious or appeals to the prurient interest."
- Additionally, all material which tends "to deprave and corrupt person" falls within the vice of the provision.
- It essentially outlaws selling, distributing and letting to hire, importing or exporting material, making a profit out of it commercially, or advertising it or making it known by any means at large.
- Section 294 (Obscene acts and songs in a public place) is of earlier origin, which has been on the statute book since 1895.

Where does the IT Act come in?
- Section 67 of the IT Act has provision that outlaws electronic transmission of or publication of sexually explicit material.
- It borrows heavily in sentiment and language from Section 292. Qualitatively, the two provisions are quite similar.

Are there parameters in place for gauging obscenity?
- At best the definition seems to be vague and somewhat open to subjective interpretation.
- The courts have adopted tests to determine whether a certain material is obscene or not. It started with the Hicklin test (adopted from the 1868 English case –Regina v. Hicklin), which allows for scenes to be looked at sans context.
- In other words, the test permits one to look at the allegedly obscene material in a vacuum, which isn't ideal.
- For example, if a rape scene in a cinematograph film has the tendency to deprave and corrupt those whose minds are open to 'immoral' influences – the material would qualify as obscene, i.e. regardless of context or artistic or literary merit.
- The first time it was really adopted in India was in the **1964 case Ranjit D. Udeshi v. State of Maharashtra**, where the constitutionality of Section 292 had been challenged along with the government-imposed ban on DH Lawrence's novel Lady Chatterley's Lover.
- **In the Bandit Queen case**, Supreme Court held that the question of obscenity had to be assessed in the context of the whole film and ruled that the **objectionable scenes could not be seen in isolation.**
- In **All India Bakchod issue in 2015** – Bombay High Court found the roast to be 'vulgar' but not 'obscene'.

FCRA RULES   *GS-II   POLITY*

Context
- The Ministry of Home Affairs (MHA) has relaxed norms for farmer, student, religious and other groups who are not directly aligned to any political party to receive foreign funds if the groups are not involved in "active politics".
- The Ministry notified new rules under the Foreign Contribution Regulation Act (FCRA), 2010 on thereby amending the FCRA Rules, 2011.
- The organisations specified under clauses (v) and (vi) of sub-rule (1) shall be considered to be of political nature, if they participate in active politics or party politics, as the case may be.
- The 2011 rules dealt with "guidelines for the declaration of an organisation to be of a political nature, not being a political party", and the Central government could specify an organisation as that of political nature based on six criteria.

Political group
- Clause V of Rule 3 (FCRA 2011) **qualified a political group** as, "organisations of farmers, workers, students, youths based on caste, community , religion, language or otherwise, which is **not directly aligned to any political party**, but whose objectives as stated in the memorandum of association, or activities gathered through other material evidence, include steps towards advancement of political interests of such groups".
- The other 2011 clause (VI) qualified a group as political if the "organisation by whatever name called habitually engages itself in or employs common methods of political action like rastaroko, jail bharo, rail roko, bandh or hartal in support of public causes".
- A new clause has been inserted which says that groups mentioned in Clause V and VI will only be considered a political group by the Centre if they participate in "active politics or party politics".

- As per the FCRA, **members of legislatures, political parties, government officials, judges and media persons** are **prohibited** from receiving any foreign contribution.

About FCRA

- FCRA regulates foreign donations and ensures that such **contributions do not adversely affect the internal security of the country.**
- The Act, first enacted in 1976, was amended in the year 2010, when a slew of new measures were taken by the Union Home Ministry **to regulate foreign donations.**
- It was again amended in September this year.
- The Act is **applicable to all associations, groups and non-governmental organisations** (NGOs) who intend to receive foreign donations.

Implications

- The new rules also make new FCRA registrations **more stringent.**
- Any organisation that wants to register itself under FCRA "shall be in **existence for three years**" and should have "spent a minimum **amount of □15 lakh on its core activities** for the benefit of society during the last three financial years".
- However, exceptions could be granted "provided that the Central Government, in exceptional cases or in cases where a person is controlled by the Central Government or a State Government may waive the conditions".
- The amended rules also said that <u>office bearers of NGOs or organisations seeking registration under the FCRA must submit a specific commitment letter</u> from the donor indicating the amount of foreign contribution and the purpose for which it was being given.

LEGISLATIONS ON 'FREEDOM OF RELIGION'   *GS-II POLITY*

What are the provisions of the Special Marriage Act?

- The Special Marriage Act, 1954 (SMA) was enacted to facilitate the marriage of couples professing different faiths and preferring a civil wedding.
- The law's features on prior public notice being given and objections being called from any quarter place a question mark on the safety and privacy of those intending to marry across religions.
- Many settle for marriage under the personal law of one of them, with the other opting for religious conversion.
- Even this option is now under threat, as recent remarks by the Chief Ministers of Uttar Pradesh and Haryana and a Karnataka Minister indicate.
- All of them want to ban conversion for the sole purpose of marriage.

What are the features of the SMA?

- The marriage of any two persons may be solemnised under the SMA, subject to the man having completed 21 years of age and the woman 18.
- Neither should have a spouse living; both should be capable of giving valid consent, should not suffer from any mental disorder of a kind that renders them unfit for marriage and procreation.
- They should not be within the degrees of prohibited relationship — that is, they should not be related in such a way that their religion does not permit such marriages.
- Parties to an intended marriage should give notice to the 'marriage officer' of the district in which one of them had resided for at least 30 days.
- The notice will have to be entered in a 'Marriage Notice Book' and a copy of it displayed at a conspicuous place in the office.
- The Notice Book is open for inspection at all reasonable times without a fee.
- Further, if either of the parties is not a permanent resident of the district, the marriage officer has to send a copy to his counterpart in the district where the party has permanent residence.
- The notice shall be displayed in that district office too.
- The marriage has to be solemnised within three months of the notice, and if it is not, a fresh notice will be needed.
- The law also provides for objections to the marriage. Any person can object to the marriage within 30 days of the publication of the notice on the ground that it contravenes one of the conditions for a valid marriage.
- The marriage officer has to inquire into the objection and give a decision within 30 days.
- If he refuses permission for the marriage, an appeal can be made to the district court. The court's decision will be final.
- Act says that when a member of an undivided family who professes Hindu, Buddhist, Sikh or Jaina religions, gets married under SMA, it results in his or her "severance" from the family.

What are the hurdles faced by couples?

- The provisions relating to notice, publication and objection have rendered it difficult for many people intending to solemnise inter-faith marriages.
- Publicity in the local registration office may mean that family members objecting to the union may seek to stop it by coercion.
- In many cases, there may be a threat to the lives of the applicants.
- There have been reports of right-wing groups opposed to inter-faith marriages keeping a watch on the notice boards of marriage offices and taking down the details of the parties so that they can be dissuaded or coerced into abandoning the idea.
- The Kerala Registration department decided to discontinue the practice of uploading marriage notices on its websites following complaints that these were being misused for communal propaganda.
- These provisions have been challenged in the Supreme Court recently on the grounds that they violate the privacy of the couples, their dignity and right to marry.
- In the case of Hindu and Muslim marriage laws, there is no requirement of prior notice and, therefore, such a requirement in the SMA, violates the right to equality of those opting for marriage under it.

What are the other options for registration of inter-faith marriages?

- Many opt for inter-faith marriages through the relevant law of the faith of one of the parties.
- This will involve one of them converting to the religion professed by the other.
- While conversion to Islam and Christianity has formal means, there is no prescribed ceremony for conversion to Hinduism.
- The Hindu Marriage Act is also applicable to "any person who is a convert or re-convert to the Hindu, Buddhist, Jaina or Sikh religion".
- In a recent ruling, the **Allahabad High Court declined to grant police protection** to a couple, of whom the bride was a Muslim who converted to Hinduism.
- Citing past precedents, court ruled that conversion should be based on change of heart and conviction and should not be solely for the purpose of marriage.
- Law Commission of India had recommended in 2010 that every person who has converted may be allowed to send a declaration within a month to the officer who registers marriages in the area, and it may be confirmed in person after 21 days.
- However, this recommendation was not made applicable to States that have a Freedom of Religion Act (which are essentially anti-conversion laws).

Are there laws against conversion for the sake of marriage?

- Even though Chief Ministers of Uttar Pradesh (U.P.) and Karnataka have spoken about a separate enactment, at least two States have legal provisions to the effect.
- The Himachal Pradesh Freedom of Religion Act, 2019, and the Uttarakhand Freedom of Religion Act, 2018, both prohibit conversion by misrepresentation, force, fraud, undue influence, inducement, allurement and 'by marriage'.
- There is a separate section in both laws under which, not conversion for the purpose of marriage, but marriage done solely for the purpose of conversion, may be declared null and void by a family court based on a suit by either party.
- The U.P. State Law Commission has recommended a similar Freedom of Religion law in the State and favours a provision under which marriages solemnised solely for conversion of one of the parties may be nullified by a family court.

SC & ST (PREVENTION OF ATROCITIES) ACT   /   *GS-II   POLITY*

Context

- All insults or intimidations to persons belonging to Dalit or tribal communities will not be an offence under the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, the Supreme Court said in a judgment.
- An offence is made out under the statute only if the insults or intimidations were made on account of the victim belonging to Scheduled Caste or Scheduled Tribe.
- The court said the insult should be specifically intended to humiliate the victim for his caste.
- Offence under the Act is not established merely on the fact that the informant [complainant] is a member of Scheduled Caste unless there is an intention to humiliate a member of Scheduled Caste or Scheduled Tribe for the reason that the victim belongs to such caste.
- The object of the Act is to punish the violators who inflict indignities, humiliations and harassment.
- It is intended to punish the acts of the upper caste against the vulnerable section of the society for the reason that they belong to a particular community.

Why it was amended?

- The Bench reasoned that human failing and not caste is the reason behind the lodging of false criminal complaints.
- The Supreme Court condemned its own earlier judgment, saying it was against "basic human dignity" to treat all SC/ST community members as "a liar or crook."
- Caste of a person cannot be a cause for lodging a false report, the verdict observed.
- Members of the SCs and STs, due to backwardness, cannot even muster the courage to lodge an FIR, much less, a false one, the judgment noted.

The Subhash Kashinath Mahajan case

- Mahajan was Director of Technical Education in Maharashtra.
- Two non-SC officers had made an adverse entry on the character and integrity of a Dalit employee, whom Mahajan in 2011 denied sanction for prosecution against those officers.
- The denial was challenged on the ground that the state government and not the director was the competent authority.
- The apex Court held that safeguards against blackmail are necessary as by way of rampant misuse, complaints are largely being filed against public servants with oblique motive for the satisfaction of vested interests.

Strengthening the law

- The SC, in *Dr. Subhash Kashinath Mahajan vs State of Maharashtra*, held on March 20, 2018: No absolute bar against grant of anticipatory bail under the anti-atrocities law if no prima facie case is made out or if judicial scrutiny reveals the complaint to be prima facie *mala fide*
- Parliament introduces an amendment in 2018. Inserts Section 18A in the original Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act of 1989. Section 18A re-affirms the original legislative intention that Section 438 CrPC (pre-arrest bail) is not applicable to accused booked under the atrocities law

- Prathvi Raj Chouhan and other petitioners challenge the amendments as arbitrary
- February 10, 2020 judgment in Prathvi Raj Chouhan case: Justices Arun Mishra and Vineet Saran uphold Section 18A. However, the judges add that the High Courts will have an "inherent power" to grant anticipatory bail in cases in which *prima facie* an offence under the 1989 law is not made out

- **Justice S. Ravindra Bhat** adds a caveat about the use of this "inherent power" by courts. He says it should be used "only sparingly and in very exceptional cases". Otherwise, miscarriage of justice may result. The intention of Parliament to protect SCs and STs will be defeated

- "It is important to keep oneself reminded that while sometimes (perhaps mostly in urban areas) false accusations are made, those are not necessarily reflective of the prevailing and wide spread social prejudices against members of these oppressed classes": Justice Bhat

---

SC/ST (Prevention of Atrocities) Act, 1989

- SC/ST (prevention of atrocities) Act is a standalone legal protection granted to the depressed classes against casteist slurs, abuses and violence.
- It is a comprehensive law which not only defines atrocities against SCs and STs but also makes several rules, regulations etc. for proper protection of these vulnerable sections.
- One of the provisions of the law states that public servant neglecting his duties with respect to SCs/STs will be punished with jail term of 6 months to 1 year.
- Ministry of social justice and empowerment is the nodal ministry to enforce the provisions of the Act.

How frequently do SCs/STs face atrocities?

- A crime is committed against an SC every 15 minutes.
- Six SC women are raped every day on an average.
- Between 2007 and 2017, there was a 66 per cent growth in crimes against SCs.
- Data from the National Crime Record Bureau, which the 2018 judgment was based on, showed cases of rape of SC women had doubled in 10 years.

SVANIDHI SCHEME FOR STREET VENDORS

GS-II POLITY

Context

- The PM SVANidhi scheme, funded by the Ministry of Housing and Urban Affairs, was launched with an aim to provide credit for working capital to street vendors who have been affected due to the Covid-19 crisis.

What's the scheme?

- PM SVANidhi ensures a working capital loan up to Rs 10,000 for vendors, and rewards digital transactions.
- All street vendors who have been in the business on or before March 24, 2020, are eligible to avail the benefits.
- For this scheme launched in the wake of the novel coronavirus pandemic, the Centre has earmarked a stimulus package of Rs 5,000 crore for nearly 50 lakh vendors.

Street vendors in India

- There are an estimated 50-60 lakh street vendors in India, with the largest concentrations in the cities of Delhi, Mumbai, Kolkata, and Ahmedabad.
- Most of them are migrants who typically work for 10–12 hours every day on average.
- Anyone who doesn't have a permanent shop is considered a street vendor.
- According to government estimates, street-vending accounts for 14 per cent of the total (non-agricultural) urban informal employment in the country.

- Most vendors hawk their goods illegally, which makes them vulnerable to exploitation and extortion by local police and municipal authorities.
- Often, local bodies conduct eviction drives to clear the pavements of encroachers, and confiscate their goods. Fines for recovery are heavy.

Organizing efforts

- Over the years, street vendors have organised themselves into trade unions and associations, and numerous NGOs have started working for them.
- The National Hawker Federation (NHF) is a federation of 1,400 street vendor organisations and trade unions that has a presence in 28 states.
- The National Association of Street Vendors of India (NASVI), which pushed to get the landmark Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act of 2014 through Parliament, is working to provide hygiene and social distancing training to cooked food vendors in the wake of the pandemic.

The Street Vendors Act

- The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014 was enacted to regulate street vendors in public areas and protect their rights.
- The Act defines a "street vendor" as a person engaged in vending of articles of everyday use or offering services to the general public, in any public place or private area, from a temporary built up structure or by moving from place to place".
- The Act envisages the formation of Town Vending Committees in various districts to ensure that all street vendors identified by the government are accommodated in the vending zones subject to norms.
- The implementation of the Act has been patchy.
- According to NASVI, barring in a few districts in Punjab, Madhya Pradesh, and Maharashtra, town vending committees haven't been formed, and street vendors continue to have to fend for themselves.
- The next stage being contemplated is to make a first-of-its-kind database of the beneficiaries of this scheme to see who they are, and where they belong vis-à-vis the government's social security net woven through various welfare schemes on education, housing, food, livelihood et al.

Why is such a study needed?

- The scheme plans to extend the microcredit to over 50 lakh street vendors across India, which is the estimated number of the hawkers as per various urban local bodies.
- Government wants to use the data for comprehensive poverty alleviation

NSSO data on Street Vendors

- There is hardly any comprehensive structured data on the socio-economic profile of street vendors and the street vending economy in India, even in government surveys like the National Sample Survey Organisation (NSSO) and the Economic Survey.
- The NSSO, has defined street vendors through a category of "enterprises without fixed premises" among "Unincorporated Non-Agricultural Enterprises (excluding construction)", in its 67-68th round report published in 2011-12.
- "Vending is an important source of employment for a large number of urban poor as it requires low skills and small financial inputs and for the customers, it provides convenience and low priced goods and services.
- The NSSO data estimated that around 200,000 women and 21,500 children were engaged in street vending.
- Around 1.18 million households were dependent on this sector as their primary source of income, according to a paper by think-tank Observer Research Foundation.

PM SVANidhi scheme

- It brings in financial mainstreaming of street vendors through loans and digital payments, the government wants to formalise its understanding of this sector, and, based on that understanding, bring them under various schemes.
- One of the benefits the scheme is helping in mainstreaming and legitimising genuine street vendors who have not got valid identity cards simply because local bodies have not updated their lists for years.

How will the study be done?

- Banks, as part of its common processes, are collecting data about street vendors who are beneficiaries of the project.
- Such data already captured by banks and municipal bodies will be leveraged to create a profiling of the vendors.

Will this actually work towards poverty alleviation?

- Becoming formal beneficiaries of various government schemes works as a big step towards entering the policy intervention

network.

- It will helps in financial mainstreaming in the long run.
- PMSVANidhi is incentivising digital transactions by street vendors.
- They will soon be given QR codes to receive payments through the government's BHIM UPI app.
- They are given cash-back for digital transactions too.
- The idea is that with a trail of digital transactions against their names, they will create a formal transaction history in banks and will slowly build their creditworthiness for the future.

SC ORDER ON CONFESSIONS IN NARCOTICS CASES / *GS-II POLITY*

Context
- The Supreme Court has ruled on a long-pending question of law on whether statements recorded under Section 67 of the Narcotics Drugs and Psychotropic Substances (NDPS) Act can be admissible as confessional statements during criminal trials.
- The majority judgment ruled that statements recorded by officers under the NDPS Act cannot be treated as confessions.

Why is the Supreme Court judgment significant?
- The officers under Section 53 of the NDPS Act are not defined as "police officers" but are given the powers of an "officer-in-charge of a police station", confessions given to them should be admissible in evidence.
- The officers in the specialised anti-drug probe agency, NCB, can be deputed from various departments of the government including Central Excise, Directorate of Revenue Intelligence, Customs.
- The contrary opinion states that safeguards available for accused in international and Indian law, including the Constitution also extend to accused under the NDPS Act.
- This includes any statement given by a person to a police officer cannot be considered as a confession and cannot be enough to prove guilt.
- In 'Tofan Singh vs State of Tamil Nadu' judges ruled that such statements under the NDPS Act cannot be used as confessional statements.

What did the Supreme Court say?
- The majority view by Justices Nariman and Justices Sinha held that confessional statements made before an officer under section 53 of the NDPS Act if held as the basis to convict a person would be "a direct infringement" of constitutional guarantees".
- Court held that confessional statements before police officers were considered admissible in other special acts including the now repealed Terrorism and Disruptive Activities (Prevention) Act and Prevention of Terrorism Act (POTA).

Narcotic Drugs and Psychotropic Substances (NDPS) Act	**What are the government's initiatives against drug abuse?**
• The NDPS Act, enacted in the country in 1985, is the primary legislation for dealing with drugs and their trafficking. • It was passed as India had to fulfil obligations as a signatory of various international conventions on narcotic drugs and psychotropic substances to prevent its use and illicit trafficking. • It has various provisions to punish manufacturing, sale, possession, consumption, use, transport of banned drugs. • Punishment under the Act can vary based upon the sections the accused is charged. The Act has provisions for the court to grant immunity from prosecution to an addict involved in a small quantity of drugs after they voluntarily seek to undergo medical treatment for de-addiction under section 64A. • The Act also has the maximum punishment of the death penalty under section 31A for certain offences involving commercial quantities of a drug if the accused has been convicted before as well. • The central government can add or omit from the list of psychotropic substances. For instance, in 2015, the central government classified mephedrone– also called as meth or meow meow – as a psychotropic substance in the Act after its popularity grew among the youth and experts warned of its grave health consequences.	• Article 47 of the Directive Principles of State Policy of the Constitution of India directs state to improve public health & endeavour to bring about prohibition of the consumption of intoxicating drinks & drugs which are injurious to health. • India is also a party to the three United Nations drug conventions - Single Convention on Narcotic Drugs (1961), Convention on Psychotropic Substances (1971), Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988). **Parliament passed the following acts:** • 'Narcotic Drugs and Psychotropic Substances Act' of 1985 to tackle the problem of illegal drugs. It is a comprehensive legislation providing for stringent and long term prison sentences and heavy fines for offenders. • Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988. • Government has established enforcement agencies like Narcotic Control Bureau (NCB), Narcotics Control Division, Department of Central excise & customs, revenue intelligence & para-military and armed forces. • A joint committee to curb the menace of drug smuggling into India along international borders has been formed ministries of Home Affairs, Health, Finance and Social Justice &Empowerment.

SARNA RELIGIOUS CODE

Context
- Jharkhand government convened a special session and passed a resolution to send the Centre a letter to **recognise Sarna religion** and include it as a **separate code** in the Census of 2021.
- For the last many years several protests and meetings have been held by various tribal groups in Jharkhand and elsewhere pushing the same demand.

What is the Sarna religion?
- The followers of Sarna faith **believe pray to nature.**
- The holy grail of the faith is **"Jal, Jungle, Zameen"** and its followers **pray to the trees and hills** while believing in protecting the forest areas.
- Jharkhand has 32 tribal groups of which eight are from **Particularly Vulnerable Tribal Groups.**
- While many follow Hindu religion, some have converted to Christianity — this has become one of the planks of demanding a **separate code "to save religious identity"**— as various tribal organisations put it.
- It is believed that 50 lakhs tribal in the entire country put their religion as 'Sarna' in the 2011 census, although it was not a code.

Particularly Vulnerable Tribal Group
Government of India follows the following criteria for identification of PVTGs.
- Pre-agricultural level of technology
- Low level of literacy
- Economic backwardness
- A declining or stagnant population.
- These groups are among the most vulnerable section of our society as they are few in numbers,
- have not attained any significant level of social and economic development and
- generally inhabit remote localities having poor infrastructure and administrative support.
- 75 such groups have been identified and categorized as Particularly Vulnerable Tribal Groups (PVTGs).

The characteristics of PVTGs
- In 1973, the Dhebar Commission created Primitive Tribal Groups (PTGs) as a separate category, who are less developed among the tribal groups.
- In 2006, the Government of India renamed the PTGs as Particularly Vulnerable Tribal Groups (PVTGs).
- PVTGs have some basic characteristics
  o they are mostly homogenous,
  o with a small population,
  o relatively physically isolated,
  o social institutes cast in a simple mould,
  o absence of written language,
  o relatively simple technology and
  o a slower rate of change etc.

Population
- In India, tribal population makes up for 8.6% of the total population. Tribal people live in about 15% of the geographical area of the country. The places they live vary from plains, forests, hills, inaccessible areas etc.

Scheme for Development of Primitive Vulnerable Tribal Groups
- The Scheme for Development of Primitive Vulnerable Tribal Groups (PVTGs), came into effect from April 1, 2008.
- The Scheme defines PVTGs as the most vulnerable among the Scheduled Tribes and the Scheme therefore seeks to prioritise their protection and development.
- It identifies 75 PVTGs. The Scheme seeks to adopt a holistic approach to the socio-economic development of PVTGs and gives state governments flexibility in planning initiatives that are geared towards the specific socio-cultural imperatives of the specific groups at hand.
- Activities supported under the scheme include housing, land distribution, land development, agricultural development, cattle development, construction of link roads, installation of non conventional sources of energy, social security, etc.
- Funds are made available only for activities essential for the survival, protection and development of PVTGs and not already funded by any other Scheme of the central/state governments.
- Each state and the Andaman and Nicobar Islands' administration, is required to prepare a long term Conservation-cum-Development (CCD) plan, valid for a period of five years for each PVTG within its territory, outlining the initiatives it will undertake, financial planning for the same and the agencies charged with the responsibility of undertaking the same.
- The CCD Plan is approved by an Expert Committee, appointed by the Ministry of Tribal Affairs. The Scheme is then funded entirely by the Central government.

What has been the politics around it?
- Many of the tribals who follow this faith have later converted to Christianity—the state has more than 4% Christians most of whom are tribals.
- Some who still follow the Sarna faith believe the converted tribals are taking the benefits of reservation as a minority as well as the benefits given to Schedule Tribes.

- They also believe that benefits should be given specifically to them and not those who have converted.

What are the reasons given by state government?

- Tribals who go for work in different states not being recorded in the Census.
- Separate code will ensure recording of their population.
- Declining numbers affect the constitutional rights given to them and how the rights will be bestowed upon the Adivasis under 5th Schedule of the Constitution.

What sense does a separate code make?

- The protection of their language and history is an important aspect with tribals.
- Between 1871 and 1951, the tribals had a different code. However, it was changed around 1961-62.
- Today when the entire world is focusing on reducing pollution and protecting the environment, it is prudent that **Sarna becomes a religious code as the soul of this religion** is to protect nature and the environment.

Context

- As per the extant law, bonus dues are barred only in case of employees dismissed for fraud, violent conduct and theft or sabotage.

New rules

- Those indulging in **sexual harassment of any form could run the risk of losing out on bonus dues from their employers.**
- The Code on Wages lays down norms for annual bonus dues that accrue to employees, replacing the Payment of Bonus Act, 1965.
- As per the extant law, bonus dues are barred only in case of employees dismissed for fraud, violent conduct and theft or sabotage.

What is the rationale behind this move?

- To **nudge** to get **people to be on their best behaviour in the workplace**.
- Prospect of losing one's benefits **may make employees more careful of their conduct** and they should be made aware of this provision.
- It will serves as an **additional deterrent** apart from the **Prevention of Sexual Harassment (POSH) law of 2013 to make work places safer for women.**

Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act 2013.

- The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act was passed in 2013. It defines sexual harassment, lays down the procedures for a complaint and inquiry, and the action to be taken. It broadens the Vishaka guidelines, which were already in place.
- It mandates that every employer constitute an Internal Complaints Committee (ICC) at each office or branch with 10 or more employees. It lays down procedures and defines various aspects of sexual harassment, including aggrieved victim — a woman "of any age whether employed or not", who "alleges to have been subjected to any act of sexual harassment", which means the rights of all women working or visiting any workplace, in any capacity, are protected under the Act.

How does it define sexual harassment?

- Sexual harassment includes "any one or more" of the following "unwelcome acts or behaviour" committed directly or by implication:
    - Physical contact and advance
    - A demand or request for sexual favours
    - Sexually coloured remarks
    - Showing pornography
    - Any other unwelcome physical, verbal or non-verbal conduct of sexual nature.

Time-frame

- The Act states the complaint of sexual harassment has to be made "within three months from the date of the incident". For a series of incidents, it has to be made within three months from the date of the last incident. However, this is not rigid. The ICC can "extend the time limit" if "it is satisfied that the circumstances were such which prevented the woman from filing a complaint within the said period". The ICC is to record these reasons.

Conciliation before Inquiry

- Section 10 of the Act deals with conciliation. The ICC "may", before inquiry, and "at the request of the aggrieved woman, take steps to settle the matter between her and the respondent though conciliation" — provided that "no monetary settlement shall be made as a basis of conciliation".

How does the inquiry take place?

- The ICC may forward the complaint to the police under IPC Section 509 (word, gesture or act intended to insult the modesty of a woman; maximum punishment one year jail with fine). Otherwise, the ICC can start an inquiry that has to be completed within 90 days.
- ICC has similar powers to those of a civil court in respect of the following matters: summoning and examining any person on oath; requiring the discovery and production of documents. While the inquiry is on, if the woman makes a written request,

the ICC "may" recommend her transfer, leave for three months, or any other relief to her as may be prescribed.

- When the inquiry is completed, the ICC is to provide a report of its findings to the employer within 10 days. The report is also made available to both parties.
- The identity of the woman, respondent, witness, any information on the inquiry, recommendation and action taken, the Act states, should not be made public.

What happens after the ICC report?

- If the allegations are proved, the ICC recommends that the employer take action for sexual harassment for misconduct "in accordance with the provisions of the service rules" of the company. These will obviously vary from company to company.
- It also recommends that the company deduct from the salary of the person found guilty, "as it may consider appropriate".
- Compensation is determined based on five aspects: suffering and emotional distress caused to the woman; loss in career opportunity; her medical expenses; income and financial status of the respondent; and the feasibility of such payment.
- After the recommendations, the aggrieved woman or the respondent can appeal in court within 90 days

What happens if a complaint is found to be false?

- Section 14 of the Act deals with punishment for false or malicious complaint and false evidence.
- In such a case, the ICC "may recommend" to the employer that it take action against the woman, or the person who has made the complaint, in "accordance with the provisions of the service rules".
- The Act, however, makes it clear, that action cannot be taken for "mere inability" to "substantiate the complaint or provide adequate proof".

Overview of the Code on Wages

- The new code has **amalgamated the Payment of Wages Act, 1936, the Minimum Wages Act, 1948, the Payment of Bonus Act, 1965, and the Equal Remuneration Act, 1976.**
    - *Coverage*: The Code will apply to all employees. The central government will make wage-related decisions for employments such as railways, mines, and oil fields, among others. State governments will make decisions for all other employments.
    - *Wages include* salary, allowance, or any other component expressed in monetary terms. This does not include bonus payable to employees or any travelling allowance, among others.
    - *Floor wage:* According to the Code, the central government will fix a floor wage, taking into account living standards of workers. Further, it may set different floor wages for different geographical areas. Before fixing the floor wage, the central government may obtain the advice of the Central Advisory Board and may consult with state governments.
    - *The minimum wages decided by the central or state governments must be higher than the floor wage.* In case the existing minimum wages fixed by the central or state governments are higher than the floor wage, they cannot reduce the minimum wages.
    - *Payment of wages:* Wages will be paid in (i) coins, (ii) currency notes, (iii) by cheque, (iv) by crediting to the bank account, or (v) through electronic mode. The wage period will be fixed by the employer as either: (i) daily, (ii) weekly, (iii) fortnightly, or (iv) monthly.
    - *Deductions*: Under the Code, an employee's wages may be deducted on certain grounds including: (i) fines, (ii) absence from duty, (iii) accommodation given by the employer, or (iv) recovery of advances given to the employee, among others. These deductions should not exceed 50% of the employee's total wage.
    - *Gender discrimination:* The Code prohibits gender discrimination in matters related to wages and recruitment of employees for the same work or work of similar nature.
    - *Advisory boards:* The central and state governments will constitute advisory boards. The Central Advisory Board will consist of: (i) employers, (ii) employees (in equal number as employers), (iii) independent persons, and (iv) five representatives of state governments. State Advisory Boards will consist of employers, employees, and independent persons. Further, one-third of the total members on both the central and state Boards will be women. The Boards will advise the respective governments on various issues including: (i) fixation of minimum wages, and (ii) increasing employment opportunities for women.

> **Vishakha Judgement**
> - The Supreme Court in 1997 in the case of **Vishakha vs. state of Rajasthan** provided the first authoritative decision of **'sexual harassment'** in India; and confronted with a statutory vacuum, it went creative and proposed the route of 'judicial legislation'.
> - It laid down the requirements for employers dealing with complaints of sexual assault and stipulated the formation of committees to dispose of complaints from victims of harassment. **These guidelines came to be known as Vishakha Guidelines.**
> This is part of what **the Supreme Court had stated in 1997 that gender equality under Article 14, 19 and Right to Life under Article 21, the dignity of women has to be maintained.**

SHe-box
- It is an online complaint management system for registering complaints related to sexual harassment at workplace.
- It was launched by the Ministry of Women and Child Development.
- The complaint management system has been developed to ensure the effective implementation of Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act (the SH Act), 2013.
- Once a complaint is submitted to the portal, it will be directly sent to the Internal Complaints Committee (ICC) of the concerned Ministry/Department/PSU/Autonomous Body etc. having jurisdiction to inquire into the complaint.
- Through this portal, WCD as well as complainant can monitor the progress of inquiry conducted by the ICC.

Way forward
- Organisations should focus on gender diversity at a workplace by providing safe and secure environment and decision making roles.
- Proper awareness campaigns about rights of women employees as well as unacceptable behaviour must be spread regularly to avoid any such incident.
- Organizations need to tighten their internal processes to respond to sexual harassment complaints and take the requisite steps to appropriately respond to such cases through ICCs.
- State governments should take urgent steps to examine the establishment and functioning of LCCs
- There is an urgent need to address issues of sexual harassment in unorganized sector.
- **The issue of sexual harassment cannot be addressed by mere enactment of laws** but by overcoming stereotypes, narrow-mindedness and gender biasness.

GLARING GAPS' IN TOBACCO CONTROL LAWS
GS-II SOCIAL JUSTICE

Context
- Prominent display of ads of tobacco products in stores makes tobacco control laws ineffective, says report by National Law School of India University (NLSIU).

Key findings
- Permission for smoking in designated areas of restaurants, hotels and airports and display of advertisements of tobacco products in stores and kiosks have been identified as **"glaring gaps"** in the existing tobacco control laws in the country.
- Even though smoking in public places and advertising of tobacco products are banned under the **Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act (COTPA) 2003**, the permission for smoking in designated areas make the existing tobacco control laws **"ineffective for regulating tobacco consumption and exposure to second-hand smoke in India,"**

WHO Framework Convention on Tobacco Control (WHO FCTC)
- The WHO Framework Convention on Tobacco Control (WHO FCTC) is the first international treaty negotiated under the auspices of WHO. There are currently 181 Parties to the Convention. It was adopted by the World Health Assembly on 21 May 2003 and entered into force on 27 February 2005. It has since become one of the most rapidly and widely embraced treaties in United Nations history.
- The WHO FCTC was developed by countries in response to the globalization of the tobacco epidemic. It aims to tackle some of the causes of that epidemic, including complex factors with cross -border effects, such as trade liberalization and direct foreign investment, tobacco advertising, promotion and sponsorship beyond national borders, and illicit trade in tobacco products. The preamble to the Convention shows how countries viewed the need to develop such an international legal instrument.
- Govt. of India ratified the WHO Framework Convention on Tobacco Control (WHO FCTC) in 2004, the first ever international public health treaty focusing on the global public health issue of tobacco control. WHO-FCTC provides for various measures to reduce the demand as well as supply of tobacco. India played a leading role in FCTC negotiations to finalize its provisions and was the regional coordinator for the South- East Asian countries.
- **COP:** The Conference of the Parties (COP) is the Governing Body of the WHO FCTC and is comprised of all Parties to the Convention. It keeps under regular review the implementation of the Convention and takes the decisions necessary to promote its effective implementation, and may also adopt protocols, annexes and amendments to the Convention.
- The Parties have made great progress in tobacco control since then, often as a result of fulfilling their obligations under the convention. The global progress reports, and the implementation database maintained by the Convention Secretariat, demonstrate the achievements as well as the areas in which more progress needs to be made.

The Convention is divided into sections

- Articles 3-5: establish the objective, guiding principles and general obligations engendered by the treaty;
- Articles 6 to 14: demand-side reduction measures;
  - Article: 6 – Price and tax measures to reduce the demand for tobacco.
  - Article: 7 – Non-price measures to reduce the demand for tobacco
  - Article: 8 - Protection from exposure to second hand tobacco smoke.
  - Article: 9 & 10 - Tobacco content and product regulation
  - Article: 11 - Packaging and labeling of tobacco products.
  - Article: 12 - Education, communication, training and public awareness.
  - Article: 13 - Tobacco advertising, promotion and sponsorship
  - Article: 14 – Demand reduction measures concerning tobacco dependence and cessation
- Articles 15-17: supply-side reduction measures;
  - Article: 15 – Illicit trade in tobacco products.
  - Article: 16 - Sales to and by minors;
  - Article: 17 - Provision of support for economically viable alternative activities.
- Article 18: protection of the environment;
- Article 19: liability;
- Articles 20-22: cooperation and communication;
- Articles 23-26: institutional arrangements and financial resources;
- Article 27: settlement of disputes;
- Articles 28-29: development of the convention; and
- Articles 30-38: "final provisions", covering statutory matters such as means of acceding to the Convention, entry into force, and so on.

Issues related with tobacco use

Health

- According to a Lancet study (2012), in India, tobacco-related cancers represented 42·0% of male and 18·3% of female cancer deaths.
- India also has one of the highest rates of oral cancer in the world as the consequence of high prevalence of smokeless tobacco use
- It causes cardiovascular diseases, chronic obstructive pulmonary, diseaseslung cancer and other cancers, asthma and other respiratory diseases in humans.
- Passive or active exposure to tobacco smoke has often led to tuberculosis infection
- High health Expenditure- Direct medical cost, indirect morbidity cost, productivity loss due to premature mortality

Economy

- Tobacco-related disease costs the Indian economy around 2% of GDP just among adults aged between 35 and 69.

Environment

- Tobacco cultivation and the curing process contribute towards deforestation, soil depletion, loss of soil nutrients and pollution due to the heavy use of agrochemicals.
- In 2010, India produced 10,000 million cigarettes which is estimated to have emitted nearly 6750 tons of carbon dioxide to produce cigarettes

Toxic waste

- Cigarette and bidi buts are non-biodegradable and can persist in the environment for a very long time.

Challenges

1. Economic power of Tobacco industry: employment generation in agriculture and manufacturing and revenues in the form of exports and taxes.
2. Lobbying:
- Tobacco industry exert undue influence on government
3. Improper taxation:
- Taxes have traditionally been raised targeting cigarettes but other tobacco products like bidi, gutkaetc are quite inexpensive and affordable leading to higher consumption from smokeless tobacco.
4. Surrogate advertisements of tobacco products:
- Duplicating of brand image of one product extensively in order to promote the same brand like chewing gum, pa masala etc.

Situation in India

- India has the **second largest number of tobacco users** – 286 million or 28.6 per cent of all adults in the country.

- "Of these, **at least 1.2 million die every year from tobacco-related diseases**," the report claimed before adding that nearly 27% of all cancers in India are due to tobacco-usage.

Tobacco Control in India
- **WHO Framework Convention on Tobacco Control**: India **ratified the WHO Framework Convention on Tobacco Control** (WHO FCTC) in 2004.
- **Cigarettes and Other Tobacco Products Act (COTPA), 2003**
    - **It has powers of** statutory warnings- 'Cigarette Smoking is Injurious to Health' to be displayed on cigarette packs and advertisements.
    - It included cigars, bidis, cheroots, pipe tobacco, hookah, chewing tobacco, pan masala, and gutka under its ambit
- **National Tobacco Control Programme (NTCP), 2008**
    - To control tobacco consumption and minimize tobacco consumption related deaths.
    - NTCP is implemented through a three-tier structure of National Tobacco Control Cell (NTCC) ,State Tobacco Control Cell (STCC) and District Tobacco Control Cell (DTCC) atthe Central level State level District levels respectively.
        - **Cigarettes and other Tobacco Products (Packaging and Labelling) Amendment Rules, 2020**
    - New sets of specified health warnings with enhanced pictorial images to be printed on all tobacco products.
- **mCessation Programme**
    - It aims at reaching out to those willing to quit tobacco use and support them towards successful quitting through text messages. This is first time in the world that such a two way service is being provided as part of any mHealth initiative.
- **Cable Television Networks Amendment Act of 2000**
    - Prohibited the transmission of advertisements on tobacco and liquor in India.
    - The Government of India has also issued regulations under the **Food Safety and Standards Act 2006** which lay down that tobacco or nicotine cannot be used as ingredients in food products.
- **Tobacco Taxation**
    - WHO says that cigarette taxes in India are amongst the highest in the world. However, other tobacco products are taxed at lower levels.
- **India has banned foreign direct investment in cigarette manufacturing.**

Should Tobacco be banned?
Arguments for
- Tobacco has irreversible consequences on human health and environment, banning tobacco production and consumption will curb it.
- Smoking bans have been introduced in numerous countries like Iceland, Bhutan have resulted in decline in smoking consequently.

Arguments against
- The tobacco industry has a major contribution in employment and revenue generation hence banning it is not viable.
- A complete ban will lead to smuggling and black-market which may increase criminal activities. For example: The complete ban on tobacco led to the emergence of black market and increase in tobacco usage in Bhutan
- Hence, rather than banning, information, communication and awareness should be the approach in controlling the usage of tobacco in India.

Way Forward
- A comprehensive tobacco control policy which aligns policies and visions of other departments of public health like health, youth, tribal and Home ministries.
- Taxing non-smoke tobacco products appropriately
- Universal cessation services
- Proper implementation of COTPA
- Alternative livelihood opportunities for people engaged in tobacco industry.
- Enhancing public awareness through campaigns, educational programs in schools, advertisements, seminars and prominent graphic health warnings.

Context

- A field study by the Azim Premji University on the efficacy and accessibility of e-learning has found that **more than 60% of the respondents who are enrolled in government schools could not access online education.** The study, titled **"Myths of Online Education"**, was undertaken in five States across 26 districts and covered 1,522 schools.
- More than 80,000 students study in these government schools. The study examined the experience of children and teachers with online education.

> **Key findings of study:**
> - The researchers noted that **non-availability or inadequate number of smartphones for dedicated use or sharing, as well as difficulty in using apps for online learning**, were the most important reasons why students were not able to access classes.
> - **Children with disabilities** in fact found it **more difficult to participate** in online sessions.
> - The researchers pointed out that 90% of the teachers who work with children with disabilities found their students unable to participate online.
> - Almost 70% of the parents surveyed were of the opinion that online classes were not effective and did not help in their child's learnings.

Issues with online learning

Increasing inequality

- As access to smartphones and internet are a prerequisite for accessing e learning, students from poorer backgrounds suffer due to lack of these. Hence they lose out on learning opportunities , further exacerbating inequality in learning outcomes.

Hampers overall development

- Sitting for long hours watching the mobile screen or laptop is not advisable for kids. **It can hamper their overall development.** The light emitted from the screen can strain children's eyes and could lead to vision problems throughout their lives. Often, parents expose children to screens right from a young age — using videos to get toddlers to eat without a fuss is a common parenting method. This can lead to several behavioural problems.

Virtual teaching is beneficial only to an extent:

- Many students have a visual memory and seem to learn more willingly and are interested in online modes of teaching. It is beneficial to an extent because it does not require waking up early, there is no fear of getting scolded and one can study in a comfortable manner.
- But, a teacher-student relationship can be best established in a classroom only. The interaction and the questions a student asks the instructor in the class cannot happen in an online interaction.

Classroom teaches life skills

- Daily interactions with teachers and peers improve their skills to deal with and teach them how to live in a society. Moreover, schools organise competitions and exams which result in the formation of skills required in day-to-day life.

Many distractions in online learning

- Like surfing other sites, social media, youtube, lack of attention etc which do not produce effective learning outcomes.
- Virtual learning offers a good substitute to classroom learning in the time of emergency but it cannot replace the classroom. Classroom learning still remains the main option as discipline can be taught through it and it is a better mode of imparting education and knowledge.

> **Steps taken by Government to promote e-learning in India:**
> The Government of India has launched several programs to spread digital literacy, create a knowledge-based society in India, and implement three principles 'access, equity and quality' of the Education Policy.
> - 'Digital India Mission
> - **e-Basta**: Schools books in digital form
> - **e-Education**: All schools connected with broadband and free Wi-Fi in all schools and develop MOOCs – develop pilot Massive Online Open Courses
> - **NandGhars**: Digital tools as teaching aids
> - **SWAYAM** (Study Webs of Active–Learning for Young Aspiring Minds): MOOCs based on curriculum taught in classrooms from 9th class till post-graduation
> - **India Skills Online**: Learning portal for skill training

Context

- India has announced the launch of Phase-IV of the High Impact Community Development Projects in Afghanistan.
- India's long term commitment to the development of Afghanistan and the benefit of it's people as a contiguous neighbor and strategic partner.

Other developments

- India's development portfolio in Afghanistan has to-date amounted to over **3 billion US dollars**, no part of Afghanistan today is untouched by the **400 plus projects** that India has undertaken in all 34 of Afghanistan's provinces.
- India had just concluded with Afghanistan an agreement for the construction of the **Shatoot dam**, which would provide safe drinking water to two million residents of Kabul city.
- India had earlier built the 202-kilometer **Phul-e-Khumri transmission line** that provided electricity to Kabul city.
- Afghanistan's growth has been constrained by its land locked geography and highlighted India's efforts to provide an alternate connectivity through **Chabahar port and a dedicated Air Freight Corridor between India and Afghanistan.**
- India's **humanitarian assistance of 75 thousand tonnes of wheat** to strengthen food security of Afghanistan during the Covid pandemic has been transported through Chabahar port.

THE CHABAHAR ADVANTAGE FOR INDIA

Chabahar port to be developed by India for ₹ 3368.5 crore

Reasonable input costs and distance to help Indian companies

Distance between Kandla port and Chabahar is just 550 nautical miles

Trade with Central Asia will grow

Chemical, Petrochemicals, Steel sectors to get an impetus

Fertilizer imports will get cheaper

Easier availability of minerals from Afghanistan

FOOD GRAIN EXPORTS TO AFGANISTAN TO GET CHEAPER

India and Afghanistan bilateral relations
Why relations with Afghanistan matters?

- Afghanistan has been a **key player in Asian geopolitics** owing to its geostrategic and geopolitical location.
- Being situated at the **crossroads of the Middle East, Central Asia and the Indian subcontinent**, it has been a transit and transport hub since the ancient Silk route.
- In the context of global affairs, its central location and borders with six other nations including Iran, Pakistan, China, Turkmenistan have made it a hot-bed for conflict and cooperation.

Historical background

- India and Afghanistan have a strong relationship based on historical and cultural links.
- The relationship has its foundations in the historical contacts and exchanges between the people.
- In recent past, India-Afghanistan relations have been further strengthened by the **Strategic Partnership Agreement**, which was signed between the two countries in October 2011.

Strategic Partnership Agreement (SPA)
- The Strategic Partnership Agreement (SPA) between the two sides, provides for **assistance to help rebuild Afghanistan's infrastructure and institutions, education and technical assistance to re-build indigenous Afghan capacity** in different areas, encouraging investment in Afghanistan's natural resources, **providing duty free access to the Indian market for Afghanistan's** exports support for an Afghan-led, Afghan-owned, broad-based and inclusive process of peace and reconciliation, and advocating the need for a **sustained and long-term commitment to Afghanistan** by the international community.

Political relations

High Level Visits

- Prime Minister of India visited Herat in 2016 and inaugurated the **Afghan-India Friendship Dam, earlier known as Salma Dam.**
- Prime Minister along with a high level delegation paid a visit on 25 December 2016 to inaugurated the newly built **Afghan Parliament** with approx INR 970 crore; announced new **500 scholarships for the children** of the martyrs of Afghan Security Forces and gifted four **Mi-25 Attack helicopters** to the Afghan Air Force.
- President Ghani paid a working visit to India in 2018 and expressed satisfaction at the increase in **bilateral trade that had crossed the US $ 1 billion** mark. He expressed determination to strengthen connectivity between the two countries,

including through Chabahar port and Air-Freight Corridor.

- It was agreed to **deepen the 'New Development Partnership'** in the areas of high impact projects in this field of infrastructure, human resources development and other capacity building projects in Afghanistan.
- India agreed to implement important new projects such as the
  - o **Shahtoot Dam and drinking water project for Kabul that would also facilitate irrigation;**
  - o **water supply for Charikar City;**
  - o **road connectivity to Band-e-Amir in Bamyan Province that would promote tourism;**
  - o **low cost housing for returning Afghan refugees in Nangarhar Province to assist in their resettlement;**
  - o **a gypsum board manufacturing plant in Kabul to promote value added local industry development and import substitution;**
  - o **a polyclinic in Mazar-e-Sharif** among others.
- In addition, India also committed to take up additional 116 **High Impact Community Development Projects** in 34 provinces of Afghanistan. These projects will be in areas of education, health, agriculture, irrigation, drinking water, renewable energy, flood control, micro-hydro power, sports and administrative infrastructure.

Commercial Relations

- Given the geographical proximity and historical linkages, India has been a **natural trading partner for Afghanistan** and is the **largest market in South Asia** for its products.
- The total bilateral trade between India and Afghanistan for CY 2019-20 was at **US$ 1.5 billion**.
- Difficulties in transit via Pakistan was a major hurdle in expanding the trade ties.
- In order to expand trade to India, the Afghan government in collaboration with Government of India launched a **dedicated Air Freight Corridor** on 19 June 2017.
- Operationalization of the Chabahar Port in December 2017, followed by commercial agreement to manage port operations in February 2018, clearly demonstrate the feasibility of Chabahar Port as a transit point for Afghanistan and eventually to Central Asia.

Afghanistan-India Culture Relations

- There have been several exchanges of artistes and music troupes over the past few years.
- In addition to the above people to people exchanges, the two Governments came together to establish an **India-Afghanistan Foundation (IAF)** in 2007.
  - o IAF is a trust fund which finances projects aimed at fostering India-Afghanistan relations through enhancement of economic, scientific, educational, technical as well as cultural cooperation.

Sports Cooperation

- India and Afghanistan have robust relations in the field of sports.
- Since 2011, Afghanistan Under-14 & Under-17 Boys' and Under-17 Girls' **football** teams have been participating in the Subroto Cup International Tournament organised every year by the India Air Force.
- **Cricket** has been a major factor in promoting people-to-people ties between the two countries. Afghanistan Cricket Board (ACB) has been alloted three cricket home grounds in India (Noida, Dehradun and Lucknow).
- India is also involved in **construction cricket stadiums** and grounds in various provinces of Afghanistan.

High Impact Community Development Projects (HICDP)

- Since 2005, India and Afghanistan have partnered in the area of community development through the HICDP program.
- Under this scheme, US$ 120 mn has been committed till date to various small to medium scale projects in areas such as education, health, water management, government buildings, sport facilities, agriculture and irrigation, etc.
- Around 433 High Impact Community Development Projects have been completed with Indian financial support in all 34 provinces of Afghanistan so far and around 110 projects are ongoing in various provinces of Afghanistan.
- During FY 2019-20, 37 projects were completed in various provinces of Afghanistan under the High Impact Community Development Project (HICDP) scheme of Government of India.

Human Resource Development and Capacity Building

- Human resource development and capacity building initiatives constitute an important segment of India's assistance in Afghanistan.
- On an average, more than **3,500 Afghan nationals undergo training/education in India every year.**
- More than 15,000 Afghan students pursue education in India on self-financing basis.
- India's assistance in human resource development has helped to create a large pool of trained manpower that has been an asset to both the public and private sectors in Afghanistan.

Humanitarian Assistance

Major humanitarian assistance by India to Afghanistan in recent years include the following:

- To combat the global pandemic of COVID-19 and related issues of food security, India is commited to **deliver 75,000 MT of Wheat to Afghanistan** in 2020.
- In addition, India has also undertaken supply of **5 lakh tablets of Hydroxy-chloroquinine**, 1 Lakh tablets of Paracetamol and 50,000 pairs of surgical gloves to Government of Afghanistan in 2020.
- To promote food security, particularly children during the times of drought, India has distributed 2000 tonnes of pulses to Afghanistan in 2018.
- A **Medical Diagnostic Centre** in Kabul was set up in 2015. The Centre provides latest diagnostic facilities to children of Afghanistan thereby generating goodwill for India.

Indian Diaspora in Afghanistan

- Presently, there are estimated to be about **1710 Indians in the country**.
- Most of the Indians in Afghanistan are engaged as professionals in Banks, IT firms, construction companies, hospitals, NGOs, telecom companies, security companies, universities, Govt. of India sponsored projects, Govt. of Afghanistan and UN Missions.

Conclusion

- India has invested heavily in peace and development in Afghanistan and believes that the gains of the last two decades must be preserved and the interests of minorities, women and vulnerable sections must be ensured.
- As an important stakeholder, India must looks forward to walk hand in hand with the people of Afghanistan and world community in working towards a peaceful, prosperous, sovereign, democratic and united Afghanistan.

INDIA BHUTAN RELATIONS   GS-II INTERNATIONAL RELATIONS

Context

- Prime Ministers of India and Bhutan virtually launched RuPay Card phase-2 in Bhutan. The two Prime Ministers had jointly launched phase-1 of the project during Prime Minister Narendra Modi's visit to Bhutan in August last year.
- Implementation of **phase-1 of RuPay** cards in Bhutan has enabled Indian visitors in Bhutan to access ATMs and points of sale terminals across Bhutan.
- The **phase-2** will now allow Bhutanese cardholders to access RuPay network in India.

Overview of indo-Bhutan relations

- Diplomatic relations between India and Bhutan were established in 1968 with the establishment of a special office of India in Thimphu.
- **Buddhist links:** Common Buddhist links provide long term support to India-Bhutan diplomatic relation and for the regional order.
- The basic framework of India- Bhutan bilateral relations was laid in the **Treaty of Friendship and Cooperation signed in 1949** between the two countries, which was revised in February 2007.
- India and Bhutan share a unique and time tested bilateral relationship, characterized by utmost trust, goodwill and mutual understanding.
- The special relationship has been sustained by a tradition of regular high level visits and dialogues between the two countries.
- Government of India has consistently supported the socio-economic development of Bhutan. India has been extending economic assistance to Bhutan's socio-economic development since the early 1960s when Bhutan launched its Five Year Plans.
- India continues to be the principal development partner of Bhutan. For the 12th Five Year Plan, **India's contribution of Rs. 4500 cr. will constitute 73% of Bhutan's total external grant** component.
- **Areas of Assistance:** The key areas of focus of GOI's assistance include agriculture and irrigation development, ICT, health, industrial development, road transport, energy, civil aviation, urban development, human resource development, capacity building, scholarship, education and culture.
- **Hydropower diplomacy:** Hydro-power cooperation between the two countries is an example of win-win cooperation. For Bhutan, hydro-power development continues to be a vital catalyst for socio-economic development. The ongoing cooperation between India and Bhutan in the hydro-power sector is covered under the 2006 bilateral agreement for cooperation and its Protocol signed in 2009
- **Trade relations**: Major exports from India to Bhutan are mineral products, machinery and mechanical appliances, electrical

equipments, base metals, vehicles, vegetable products, plastics and articles.

- The major items of export from Bhutan to India are electricity, ferro-silicon, portland cement, dolomite, carbides of calcium carbides of silicon, cement clinkers, timber and wood products, potatoes, cardamom and fruit products.
- **People-to-people ties:** India is the most popular educational destination for Bhutanese students -almost 4000 Bhutanese students are enrolled in Indian Universities at any time, many of whom are also provided scholarship by Govt. of India.
- **Cultural ties:** There are vibrant cultural exchanges between the two countries. A number of Bhutanese pilgrims travel to holy Buddhists sites in India. The two countries share an open border with regular exchange of travelers in both directions for work, tourism, shopping, medical care etc.

INDIA KAZAKHASTAN TIES — GS-II   INTERNATIONAL RELATIONS

Context

- The 7th round of Foreign Office Consultations between India and Kazakhstan was held via video-conference.
- During the consultations, the two sides reviewed the entire gamut of bilateral cooperation within the framework of their Strategic Partnership.
- The consultations covered political, economic and commercial, energy, defence, space, consular and cultural matters.
- The two sides also exchanged views on regional and international issues of mutual interest and agreed to enhance cooperation in the multilateral arena, including during the forthcoming stint of India in the UN Security Council for the period 2021-22.
- An MoU on "Indian Grant Assistance for Implementation of High Impact Community Development Projects in Kazakhstan" was signed.

INDIA-KAZAKHSTAN bilateral relations

Background

- Relations between India and Kazakhstan are ancient and historical going back to more than **2000 years.**
- There has been a constant and regular exchange in goods and, more importantly, exchange of ideas and cultural influences.
- The journey of **Buddhism** from India to Central Asia and **Sufi ideas** from Central Asia to India are two such examples.

Bureau of South and Central Asian Affairs

Political relations

- India was one of the first countries to recognize the independence of Kazakhstan.
- Diplomatic relations were established in February 1992.
- India and Kazakhstan are **strategic partners** since 2009.
- India and Kazakhstan actively cooperate under the aegis of multilateral fora including **CICA (Conference on Interaction and Confidence-Building Measures in Asia), Shanghai Cooperation Organisation (SCO) and the UN organizations.**
- India has been a consistent supporter of Kazakhstan's initiative on CICA and is actively participating in the process.
- Kazakhstan **supports India's permanent membership in an expanded United Nations Security Council (UNSC)** and has extended its support for India's non-permanent membership in 2021-22.
- India supported Kazakhstan's successful candidature for non-permanent membership of UNSC in 2017-18.

Institutional Mechanisms

- The India-Kazakhstan **Inter-Governmental Commission (IGC)** established in 1993 is the **apex bilateral institutional mechanism** for developing trade, economic, scientific, technological, industrial and cultural cooperation between the two countries.

Defence Cooperation

- The Indo-Kazakh Defence Cooperation is carried out under the framework of an **agreement on 'Defence and Military Technical cooperation'** signed in July 2015.
- The agreement includes various areas including conduct of joint training, exercises, military-technical cooperation, UN peacekeeping. Kazakh Armed Forces Unit underwent training on peacekeeping operations in India for deployment under an Indian Battalion at the United Nations Interim Force in Lebanon (UNIFIL).

Trade & Economy

- Kazakhstan is India's **largest trade and investment partner in Central Asia**.
- As per statistics of Kazakhstan for 2019, total bilateral trade between India and Kazakhstan amounted to **US$ 1.56 billion**.
- FICCI and Chamber of International Commerce of Kazakhstan have set up a **Joint Business Council (JBC)** to promote trade, economic and investment cooperation between the two countries.

Cultural relations:

- India and Kazakhstan enjoy close cultural relations that manifest in popularity of **yoga, Indian films, dance and music** in Kazakhstan.
- **Swami Vivekananda Cultural Centre** in Nur-Sultan is engaged in various cultural activities, including conducting of yoga, dance and music classes; celebration of Indian festivals.
- India provides scholarships in various disciplines under the **ICCR Scholarship programmes** for students from Kazakhstan.
- **The Study in India programme** by the Government of India under the aegis of the Ministry of Human Resources Development in collaboration with the Ministry of External Affairs being provided in the CIS countries including Kazakhstan.
- India and Kazakhstan have an agreement on **visa free entry for Diplomatic and Official Passport holders.**

Indian community

- The size of the Indian community is about 7,800 in Kazakhstan.
- Out of this, about 5,300 are Indian students, about 2,280 are construction workers and the rest are in various professional fields.

Conclusion

- The current political, strategic and economic scenario, both regionally and internationally, presents immense potential for India and Kazakhstan to qualitatively and quantitatively enhance their engagement to bring it to a significantly higher level.
- Both India and Kazakhstan are factors of peace, stability, growth and development not only in their regions but also in the world.
- Stronger and deeper relations between these countries will further contribute to increasing prosperity and security for the peoples of the two countries as also for the world as a whole.

12ᵗʰ BRICS SUMMIT   *GS-II INTERNATIONAL RELATIONS*

Context

- The BRICS countries annual Summit, held virtually this time.
- The 2020 BRICS summit was the **twelfth** annual BRICS summit, an international relations conference attended by the heads of state or heads of government of the five member states Brazil, Russia, India, China and South Africa.
- Two pillars of this year's summit are the **economy and counterterrorism**.
- Two most of the pressing issues – the **coronavirus-shackled economies and sprawling terrorist networks.**

Theme

- "BRICS Partnership for Global Stability, Shared Security and Innovative Growth."

Hosted by

- Russia's President Vladimir Putin.
- **India will be taking over the Chairship of the BRICS, which would be the third BRICS Presidency for India since its inception (after 2012 and 2016) and will host the 13th BRICS Summit in 2021.**

Topic of discussion

- The event witnessed discussions around intra-BRICS cooperation and other key issues including the reform of the multilateral system (i.e. UN Security Council), measures to mitigate the impact of the ongoing COVID-19 pandemic, cooperation in counter-terrorism, trade, health, energy and people to people exchanges.

Moscow Declaration

- It adopted the extensive Moscow Declaration **"The BRICS Counterterrorism Strategy and BRICS Economic Partnership Strategy 2025"**.
- The BRICS Counterterrorism Strategy is designed to **provide law enforcement authorities with real cooperative mechanisms** for timely information exchange and to facilitate concerted measures against the masterminds of terror attacks.
- It also highlighted the urgency of agreeing on an extension of the 2010 Russia-U.S. Treaty on Measures for the Further

Reduction and Limitation of Strategic Offensive Arms without delay.

- The Moscow Declaration reaffirms the **strategic spirit of BRICS states' unanimity to set long-term goals rather than pursue short-term benefits.**
- They've called for a **comprehensive global governance model** based on reviewing the UN and its Security Council, IMF and WTO mechanisms and bringing in more representativeness and efficiency into these organizations.

What is BRICS? How did these countries come together?
- It is an **informal group** of states comprising the Federative Republic of **Brazil, the Russian Federation, the Republic of India, the People's Republic of China and the Republic of South Africa.**
- The BRICS is actually rather a forum than a traditional-type organization with rigid membership and regulations.
- Originally the first four were grouped as "BRIC" (or "the BRICs"), before the **induction of South Africa in 2010.**
- The growing economic might of BRICS countries, their significance as one of the main driving forces of global economic development, their substantial population and abundant natural resources form the foundation of their influence on the international scene and are the driving forces behind the grouping.
- At the **Fortaleza Summit (2014)**, in Brazil, important institutions were created: the **New Development Bank (NDB) and the Contingent Reserve Arrangement (CRA).**
- Among other areas of collaboration, matters pertaining to **drug trafficking** is an important area of cooperation among the BRICS member states.

BRICS and COVID-19

- Most of its programs and mechanisms proved to be effective during the pandemic.
- The **BRICS Science, Technology and Innovation (STI) Framework Programme** pioneered in 2015 helped scientists and researchers to stay connected and effectively exchange their findings to better facilitate a common response to COVID-19.
- BRICS looks better than other global governance institutions amidst the ongoing COVID crises.
- There is no blame-game or pointing fingers within BRICS, rather there is only a common vision for intensifying cooperation, including in sectors like healthcare, social welfare.
- BRICS has progressed on developing a common position on the most important matters of the global economy and security and also got institutionalised with the setting up of the **BRICS New Development Bank in 2015.**

Financial cooperation

- The **New Development Bank (NDB)** has demonstrated high efficiency during the crisis by undertaking "timely measures" through its Emergency Assistance Program – offering a **$10 billion pool of emergency loans** to its member states, split in half between support for healthcare and economic recovery.
- The significance and growing scope of the bank's operations are depicted by the increasing number of regional offices, three of which are already in operation in Shanghai, Johannesburg and San Paulo, complemented by a newly opened facility in Moscow and an upcoming one in India.
- BRICS states created **BRICS Payments Task Force** as a step towards cooperation on national payments systems.
- Establishment of the **BRICS Rapid Information Security Channel** is done to promote the exchange of information on cyber threats among their central banks.
- New domains to be explored by BRICS in the future – **digital medicine, cooperation in space, COVID-19 vaccine research and production and green finance** among them.

What challenges BRICS is facing?

- Disagreements between its members and slow progress shown on the ground when it comes to implementation of initiatives make it quite vulnerable to criticism.

What can be done?

- The pandemic has highlighted that the five countries **need to pay more attention to speeding up the practical implementation of the projects and decisions** that are being agreed on.
- There is going to be very **serious lack of money** as all the countries in the BRICS are going to be economically affected because of COVID.
- BRICS should focus on what is achievable, making sure it uses the crises time to find a common vision, lack of which has

always been one its weaknesses.

GILGIT BALTISTAN

Context
- India slammed Pakistan for its attempt to accord **provincial status to "so-called Gilgit-Baltistan",** saying it is intended to camouflage the "illegal" occupation of the region by Islamabad.
- India **"firmly rejects"** the attempt by Pakistan to bring material changes to a part of Indian territory which is under Islamabad's "illegal and forcible occupation".

What is the issue?
- Seven decades after it took control of the region, Pakistan is moving to grant **full statehood to Gilgit-Baltistan (G-B).**
- Pak.'s move to give full statehood to the mountainous region claimed by India is set to escalate tensions between the two.

What's the historical background of this region?
- The British sold it, along with the rest of Jammu and Kashmir, to the Dogra ruler of Jammu, Gulab Singh, after defeating the Sikh army in 1846, but retained controlled over the area through a lease extracted from the Maharaja.
- On November 1 1947, after J&K ruler **Hari Singh had signed the Instrument of Accession with India,** and the Indian Army had landed in the Valley to drive out tribal invaders from Pakistan, there was a rebellion against Hari Singh in Gilgit.
- Pakistan **did not accept G-B's accession** although it took administrative control of the territory.
- After India went to the UN and a series of resolutions were passed in the Security Council on the situation in Kashmir, Pakistan believed that neither G-B nor PoK should be annexed to Pakistan, as this could undermine the international case for a plebiscite in Kashmir.

Why special status for this region?
- Though both PoK and GB are **ruled directly from Islamabad**, both are **"autonomous territories".**
- During the first Indo-Pak war of October 1947, Pakistan occupied 78,114 sq km of the land of Jammu and Kashmir, including the **'Northern Areas'.**
- The Northern Areas is the other name of Gilgit-Baltistan that Pakistan has used for administrative reasons because it was a disputed territory.
- Pakistan initially governed the region directly from the central authority after it was separated from 'Azad Jammu and Kashmir' on April 28, 1949.
- Under Prime Minister Zulfiqar Ali Bhutto, the name of the region was changed to the **Federally Administered Northern Areas (FANA).**
- Pakistan passed the Gilgit-Baltistan Empowerment and Self Governance Order in 2009, which granted "self-rule" to the 'Northern Areas'.
- The local situation altered considerably with Pakistan signing an agreement with China for mega infrastructure and hydel power projects in September 2009.

Why "Statehood" now?
- On January 17, 2019, a seven-judge bench of the Supreme Court of Pakistan, took up the constitutional status of Gilgit-Baltistan.
- The purpose of the court's intervention was to determine the extent of political rights that could be enjoyed by the people of the 'Northern Areas'.
- Over the years, the region has de facto status of a province of Pakistan, but the constitutional status of the region remained vague without explicit statehood.
- The Supreme Court allowed Islamabad to amend a 2018 administrative order to hold general elections in the region.
- The Gilgit-Baltistan Order of 2018 provided for administrative changes, including empowering the Prime Minister of Pakistan to legislate on an array of subjects.

Why this region matters for both countries?
- It is one of the most mountainous regions in the world that is **rich with mines of gold, emerald and strategically important minerals**. It's **home to K-2,** the second tallest mountain in the world.
- It is known for its extraordinary **scenic beauty, diversity and ancient communities** and languages. It has some of the **ancient Buddhist sculptures and rock edicts**.
- It is also home to an old Shia community, which often finds itself subjected to persecution in Pakistan's urban centres.

- This **water-rich region** is known for high altitude dams, its biggest hydroelectricity project is the **Diamer-Bhasha dam**, which was launched in July 2020.

What's India stand on this move?

- India **reiterated its territorial sovereignty** over the region.
- Ministry of External Affairs stated that the Pakistani move to change the status of the region **will "have no legal basis whatsoever".**
- India has consistently **opposed** Pakistan's activities in Gilgit-Baltistan.
- It also opposed the announcement of the commencement of the Diamer-Bhasha dam in July.
- There have been local and international concerns as reports suggest priceless Buddhist heritage will be lost once the dam is built.
- India has objected to the use of Gilgit-Baltistan to build and operate the China Pakistan Economic Corridor (CPEC), which cuts through the region before heading to the Arabian Sea coastline of Balochistan's Gwadar port.
- India launched a new political map last November, which showed the Gilgit-Baltistan region as part of the new Union Territory of Ladakh.
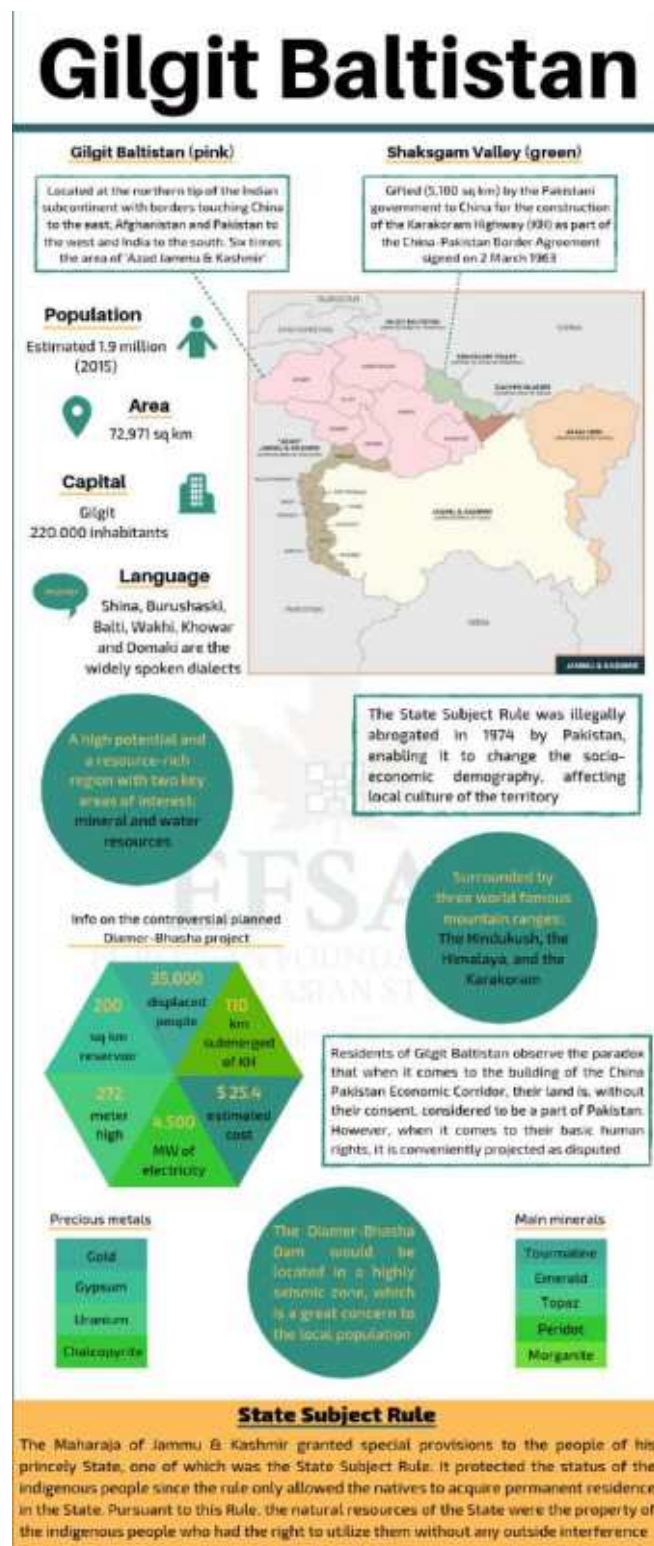
What is the motive of Pakistan behind this move?

- While some links it to China Pakistan Economic Corridor (CPEC) and **Chinese interest,** others think it might have come in **retaliation of India's passage of 2019 reorgansiation of Jammu & Kashmir.**
- There is a widespread feeling that Pakistan, under pressure from China, is firming up its control over Gilgit-Baltistan, eventually creating conditions for the **declaration of the Line of Control (LoC) in Kashmir as the International Border.**
- Full statehood for the region may give **Pakistan a political and legal upper hand and strengthen China's position in the region,** but Gilgit-Baltistan will continue to remain one of the hotspots in the tense India-Pakistan relations.

What lies across the LoC?

- Pakistan Occupied Kashmir is an area of 13,297 sq km, which was under the control of the Pakistani forces when the ceasefire line came into effect on January 1, 1949.
- In 1963, through an agreement, Pakistan ceded to China over 5,000 sq km of J&K land under its control, in the Shaksgam area, in northern Kashmir, beyond the Karakoram.

Why this region is strategically important?

- Gilgit-Baltistan is the **only territorial frontier**, and thus a **land route, that connects Pak. with China, where it meets the Xinjiang Autonomous Region.**
- To G-B's west is **Afghanistan**, to its south is Pakistan-occupied Kashmir, and to the east J&K.
- For India, the region **represents the continuity with the past of Jammu and Kashmir**, which included Gilgit-Baltistan at the time of Partition of 1947.
- The ongoing stand-off with China at the Line of Actual Control in Eastern Ladakh has a Gilgit-Baltistan connection as the Darbuk-Shyok-DBO road of India is viewed as a tactical roadway to **access the Karakoram Pass**, which provides China crucial access to Gilgit-Baltistan and Pakistan.

Gilgit Baltistan

Gilgit Baltistan (pink)
Located at the northern tip of the Indian subcontinent with borders touching China to the east, Afghanistan and Pakistan to the west and India to the south. Six times the area of 'Azad Jammu & Kashmir'

Shaksgam Valley (green)
Gifted (5,180 sq km) by the Pakistani government to China for the construction of the Karakoram Highway (KKH) as part of the China-Pakistan Border Agreement signed on 2 March 1963

Population
Estimated 1.9 million (2015)

Area
72,971 sq km

Capital
Gilgit
220,000 inhabitants

Language
Shina, Burushaski, Balti, Wakhi, Khowar and Domaki are the widely spoken dialects

A high potential and a resource-rich region with two key areas of interest: mineral and water resources

The State Subject Rule was illegally abrogated in 1974 by Pakistan, enabling it to change the socio-economic demography, affecting local culture of the territory

Surrounded by three world famous mountain ranges: The Hindukush, the Himalaya, and the Karakoram

Info on the controversial planned Diamer-Bhasha project

35,000 displaced people
200 sq km reservoir
110 km submerged of KH
272 meter high
4,500 MW of electricity
$ 25.4 estimated cost

Residents of Gilgit Baltistan observe the paradox that when it comes to the building of the China Pakistan Economic Corridor, their land is, without their consent, considered to be a part of Pakistan. However, when it comes to their basic human rights, it is conveniently projected as disputed

Precious metals
Gold
Gypsum
Uranium
Chalcopyrite

The Diamer-Bhasha Dam would be located in a highly seismic zone, which is a great concern to the local population

Main minerals
Tourmaline
Emerald
Topaz
Peridot
Morganite

State Subject Rule
The Maharaja of Jammu & Kashmir granted special provisions to the people of his princely State, one of which was the State Subject Rule. It protected the status of the indigenous people since the rule only allowed the natives to acquire permanent residence in the State. Pursuant to this Rule, the natural resources of the State were the property of the indigenous people who had the right to utilize them without any outside interference

What do the people in G-B want?

- The people of G-B have been demanding for years that it be **made a part of Pakistan,** they do not have the same constitutional rights Pakistanis have.
- There is virtually **no connect with India**, the people of G-B have no real connect with Kashmir either.
- They belong to **several non-Kashmiri ethnicities, and speak various languages, none of these Kashmiri.**
- A majority of the estimated 1.5 million G-B residents are Shias, with the predominant sentiment that their conditions will improve once they are part of the Pakistani federation.
- There is a small movement for independence, but it has very little traction.

INDIA, ASEAN SUMMIT / *GS-II   INTERNATIONAL RELATIONS*

Context

- Prime Minister Narendra Modi chaired the **17th** Association of Southeast Asian Nations (ASEAN)-India summit with his Vietnamese counterpart Nguyen Xuan Phuc.
- The summit is taking place amid **China's aggressive behaviour** in the disputed **South China Sea as well as in eastern Ladakh**.
- Several ASEAN member-nations have territorial disputes with China in South China Sea.

Key areas on the agenda

Includes **connectivity, maritime cooperation, trade and commerce, education and capacity building.**

Key highlights of the Summit

- It adopted the **ASEAN-India Plan of Action (2021-2025)** besides discussing economic recovery and regional cooperation in the post-COVID-19 world.
- India welcomed the **ASEAN Outlook on Indo-Pacific**, which has a lot in common with India's own '**Indo-Pacific Oceans Initiative'.**
- India is looking forward to see a strong, unified and prosperous ASEAN playing a central role in the Indo-Pacific region.
- It highlighted **Indo-Pacific policy**, where all countries stressed the importance of **"a rules-based order in the region including through upholding adherence to international law**, especially the UNCLOS.
- The leaders affirmed the importance of maintaining and promoting **peace, stability, safety and security in the South China Sea** in particular freedom of navigation and overflight, in reference to China's naval aggression in the region.

> **Indo-Pacific Oceans Initiative**
> - In the East Asia Summit in Bangkok in, PM had launched India's Indo-Pacific Oceans initiative.
> - **Aim:** To implement India's Indo-Pacific Vision of a safe, secure, stable and prosperous Indo-Pacific Maritime domain.
> - **Vision:** To strengthen maritime security, preserve maritime ecology, sustainably harness maritime resources, enhance cooperation on capacity building and resource sharing, ensure disaster risk reduction and management, promote science, technology and academic cooperation and enhance connectivity, maritime trade and transport.

Trade with ASEAN

- India and ASEAN countries said they would **explore ways to increase trade** between them despite **India's exit** from the 15-nation Regional Comprehensive Economic Partnership (RCEP) agreement.
- India walked out of the Free Trade Agreement after negotiations for more than six years, as it **did not address India's**

concerns about being flooded by goods from China, trade deficits and need to protect its agricultural and dairy sectors.

* India is looking for an "early review" of the **ASEAN-India Trade in Goods Agreement (AITGA)** to meet trade demands.

The Regional Comprehensive Economic Partnership, 2020

Regional Comprehensive Economic Partnership (RCEP) agreement

* Launched in 2012, RCEP is a **trade pact** between the **10-member ASEAN bloc, along with China, Japan, South Korea, Australia and New Zealand.**
* The deal includes **2.1 billion people**, with RCEP's members accounting for around **30 percent of global GDP.**
* **Aim:** To lower tariffs, open up trade in services and promote investment to help emerging economies catch up with the rest of the world.
* RCEP is expected to help **reduce costs and time for companies** by allowing them to export a product anywhere within the bloc without meeting separate requirements for each country.
* It also touches on intellectual property, but **will not cover environmental protections and labour rights**.
* A key priority area for further RCEP negotiations is likely to be e-commerce.
* It mainly matters because it sets **new trade rules for the region** -- and has China's backing but **does not include the United States**.
* The **problem** with RCEP is that it have **15 incredibly diverse countries at different stages of development and with completely internal priorities**.

What is ASEAN?

ASEAN
* The Association of Southeast Asian Nations (ASEAN) is a regional intergovernmental organization comprising ten countries in Southeast Asia
* It promotes intergovernmental cooperation and facilitates economic, political, security, military, educational, and sociocultural integration among its members and other countries in Asia.
* ASEAN operates under six fundamental principles, two of which are mutual respect for independence, sovereignty, and territorial integrity, and non-interference in member countries' internal affairs.

ASEAN Member Countries

India and ASEAN

- ASEAN-India strategic partnership stands on a strong foundation of shared geographical, historical and civilisational ties.
- India's Act East Policy, underlining ASEAN centrality, reflects the importance, India attaches to engagement with ASEAN.
- Inclusiveness, openness and ASEAN centrality and unity, lie at the heart of the new Indo-Pacific.
- With the increasing focus on oceans as providers of resources, the reservoirs of biodiversity, the highways of global trade and the frontiers of scientific research, cooperation in the maritime domain has become increasingly important under the overall rubric of ASEAN-India cooperation.

Why ASEAN matters to India?

- The ten countries of South East Asia **connect the two great oceans** in both the geographical and civilizational sense.
- Central to **India's Pacific vision**, ASEAN assumes importance on the backdrop of an increasing Chinese influence in the region.
- While India and China are locked in a bitter standoff along the Line of Actual Control, New Delhi's outreach to ASEAN nations will help strengthen much needed diplomatic ties.
- ASEAN is also India's **fourth-largest trade partner** with about $86.9 Bn in trade between India and the ten ASEAN nations.
- ASEAN and India **share land and maritime borders**, and there is a lot of scope for enhancing connectivity through land, air and sea.
- India-Myanmar-Thailand Trilateral Highway is an ongoing effort to enhance road connectivity between Northeast India and Southeast Asia.

Issues with ASEAN

- **Lack of a custodian and lacks of strong institutions** to guarantee the success of the implementation of its collective decisions.
- Facing strategic competition for influence in the Asia-Pacific between the **United States and China** and have been forced to choose sides.
- Each member faces their **own unique social, economic, and political challenges**. As a result, each seems to have no choice but focus on addressing their **own internal affairs**.
- ASEAN members faces internal and external security challenges that are border disputes and conflicts, illegal migration, ethnic crises etc.

Way Forward

- ASEAN must put in extra efforts to sustain and enhance its existing successes and achievements. The bloc should emerge as a **catalyst for peace** by promoting rule of law in the region.
- ASEAN must also promote transparency and work to reduce corruption.
- This association needs to enhance closer coordination and regional connectivity. India should also start delivering the pending project. For ex. the India-Myanmar-Thailand (IMT) highways project
- ASEAN need to strike a good balance between commercial gains and environmental protection if ASEAN wishes to achieve inclusive growth and **sustainable development.**

75 YEARS OF UNITED NATIONS

GS-II INTERNATIONAL RELATIONS

Context

- **193 members** of the United Nations adopted a **Commemorative declaration** marking **75 years** since the victors of World War II met in San Francisco.
- The UN75 Declaration resolves to take action on a range of subjects from **digital cooperation to reform of the UN.**

UN Day

- UN Day marks the **anniversary of the entry into force in 1945 of the UN Charter.**
- With the ratification of this founding document by the majority of its signatories, including the five permanent members of the Security Council, the United Nations officially came into being.
- There is no other global organization with the legitimacy, convening power and normative impact of the United Nations.
- 24 October has been celebrated as United Nations Day since 1948.
- In 1971, the United Nations General Assembly recommended that the day be observed by Member States as a public holiday.

The 75th anniversary

- The year 2020 marks the 75th anniversary of the United Nations and its founding Charter.
- This anniversary comes in a time of great disruption for the world, compounded by an unprecedented global health crisis due to the COVID-19 pandemic, with severe economic and social impacts.
- But it is also a reminder that times of struggle can become an opportunity for positive change and transformation.

Major Successes of UN

Peace

- Due partly to UN conflict resolution and peacekeeping initiatives, the number of people dying in conflicts has declined since 1945. Worldwide, fewer people died in conflict in the first decade of the 21st century than any decade of the 20th.

Ending famine

- Large parts of the world's population suffer from poverty and hunger, and thousands die of malnourishment every year.
- But the numbers have fallen from the 20th century and UN's World Food Programme, Food and Agriculture Organisation, and UN-sponsored emergency aid management can take some of the credit.

Countries who gave up The Bomb

- The UN had a hand in countries voluntarily deciding to give up weapons because they were too efficient.
- South Africa did this at the end of apartheid, and Kazakhstan did so when the Soviet Union fell apart.

Protecting heritage sites

- Protecting the Galapagos Islands and 1,000 other World Heritage sites. The UN cultural organisation UNESCO is a leader in protection of the world's most important natural and historic places.

Law of the Sea

- Negotiated between 1973 and 1982, the UN Convention on the Law of the Sea (UNCLOS) set up the current international law of the seas.
- **Conservation:** the UN-led Law of the Sea aims to protect ocean eco-systems but it has been powerless to completely stamp out damage from overfishing by some nations.

The UN since 1945

71 Peacekeeping operations

from **51** to **193** Member States

12 Nobel Peace Prizes

38 Funds, programmes and agencies created

UNITED NATIONS: Highlights of 75 Years

The UN commemorates its 75th anniversary with the theme "The Future We Want, the UN We Need: Reaffirming our Collective Commitment to Multilateralism."

DECEMBER 1948
The UN adopts the Universal Declaration of Human Rights, a milestone document putting fundamental human rights under universal protection

NOVEMBER 1956
The UN's first full-fledged peacekeeping force deployed to Egypt to de-escalate tension between Egypt, Britain, and France after Egypt nationalized the Suez Canal Company, a joint British-French enterprise

DECEMBER 1961
The UN establishes the World Food Program, its largest humanitarian organization in the fight against hunger, which began its activities in 1963

DECEMBER 1965
The United Nations Children's Fund (UNICEF), the world's leading organization for children, wins a Nobel Prize for promoting "brotherhood among nations" and showing "that children provide the key to the future."

JUNE 1968
The UN approves a landmark Treaty on the Non-Proliferation of Nuclear Weapons, which aims to prevent the spread of nuclear weapons and promote cooperation in the peaceful uses of nuclear energy with a long-term goal of achieving nuclear disarmament

1975
The UN General Assembly designates the year as International Women's Year and organizes the first world conference on women in Mexico City for gender equality, combatting violence, and discrimination. Since then March 8 has been celebrated as International Women's Day

SEPTEMBER 1978
The United Nations Educational, Scientific and Cultural Organization (UNESCO) releases its first World Heritage list with 12 sites from Germany, Ecuador, Poland, Senegal, Canada, the US, and Ethiopia. As of 2020, Turkey has 18 sites on the list

DECEMBER 1997
The UN adopts the Kyoto Protocol in which parties, currently over 190, commit to limit and reduce dangerous greenhouse gas emissions by agreed individual targets

JUNE 2001
The UN adopts a declaration of commitment on global action against acquired immunodeficiency syndrome (AIDS) and the human immunodeficiency virus (HIV) for reversing the epidemic that has caused suffering and death worldwide

SEPTEMBER 2014
The UN establishes its first emergency health mission, the UN Mission for Ebola Emergency Response (UNMEER), to combat the Ebola epidemic in West Africa which infected nearly 30,000 people and killed over 11,000

Decolonisation

- The idea of racial equality and of a people's right to self-determination was discussed in the wake of World War I and rejected.
- After World War II, however, those principles were endorsed within the UN system, and the Trusteeship Council, which monitored the process of decolonisation, was one of the initial bodies of the UN.

Human rights

- The Human Rights Declaration of 1948 for the first time set out fundamental human rights to be universally protected, recognising that the "inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world".

Free trade

- The WTO creates a near-binding system of international trade law with a clear and efficient dispute resolution process.

Major Failures of UN

Climate change

- The existence of the UN has created a forum where nations can discuss new problems, and climate change is one of them.
- **Good in theory**: Despite 165 nations signing a UN climate treaty, greenhosue gas emissions continue to increase globally.

The invasion of Iraq

- The invasion of Iraq by the US in 2003, which was unlawful and without Security Council authorisation, reflects the fact that the UN is has very limited capacity to constrain the actions of great powers.
- The invasion proved a humanitarian disaster with the loss of more than 400,000 lives, and many believe that it led to the emergence of the terrorist Islamic State.

Refugee crises

- The UN brokered the 1951 Refugee Convention to address the plight of people displaced in Europe due to World War II; years later, the 1967 Protocol removed time and geographical restrictions so that the Convention can now apply universally.
- **Tragedy:** millions of refugees continue to live outside their homelands in camps with numbers rising in recent years largely due to the Syrian conflict.

Conflicts without end

- Across the world, there is a shopping list of unresolved civil conflicts and disputed territories.
- Palestine and Kashmir are two of the longest-running failures of the UN to resolve disputed lands. More recent, ongoing conflicts include the civil wars in Syria and Yemen.

Acting like it's 1945

- The UN is increasingly out of step with the reality of geopolitics today.
- The permanent members of the Security Council reflect the division of power internationally at the end of World War II.
- The continuing exclusion of Germany, Japan, and rising powers such as India and Indonesia, reflects the failure to reflect the changing balance of power.
- Also, bodies such as the IMF and the World Bank, which are part of the UN system, continue to be dominated by the West.

Genocide in Rwanda and Srebrenica

- The UN had an "Assistance Mission" for Rwanda in 1994, which failed to stop the majority Hutus from killing almost a million members of the Tutsi minority.
- The massacre of more than 8,000 Bosnian Muslim men at the hands of Serb forces in Srebrenica in 1995 was another UN failure.

Rape and child sex abuse in the Congo

- UN peacekeepers were accused of paying for sex or raping women and young girls they were supposed to be protecting in the Democratic Republic of Congo in early 2005.
- There have been similar allegations in countries ranging from Cambodia to Bosnia to Haiti.

Spreading cholera in Haiti

- Genome testing showed that the world's worst recent outbreak of cholera, which swept through Haiti after the 2010 earthquake, was likely started by a Nepali UN peacekeeping force who carried the disease.
- More 700,000 were infected and 8,000 died.

Iraq oil for food programme

- This UN programme enabled Iraq to gain relief from international sanctions by selling oil through the UN, which would supervise the delivery of food and medicine with the resulting cash.
- However, the money ended up in private hands and became the worst financial scandal in UN history.
- Very recently in the UN's inability to deal with crises from the **ethnic cleansing of the Rohingya Muslims in Myanmar, to civil conflict in Syria, and the failure of the Security Council to adopt a COVID-19 resolution calling for ceasefires in conflict zones and a co-operative international response to the pandemic.**

Concerns with UN

- The United Nations has for too long been **resistant to meaningful reform, too often lacking in transparency, and too vulnerable to the agenda of autocratic regimes and dictatorships**.
- New threats also require new agility from the UN, threats that include theft of intellectual property and efforts to undermine internet freedom.

Way forward

- U.N had been resistant to reform and vulnerable to autocratic regimes – presumably a reference to China. The U.N must focus on real action.
- It should aim at problem solving as it advances, security, development and human rights in parallel.
- The issue of development should be highlighted in the global macro framework.

15ᵀᴴ EAST ASIA SUMMIT 2020   *GS-II INTERNATIONAL RELATIONS*

Context

External Affairs Minister Dr. S. Jaishankar represented India at the 15th East Asia Summit (EAS) on 14 November 2020.

Key highlights of the summit

- **Chaired by:** Prime Minister of Vietnam H.E. Nguyen Xuan Phuc in his capacity as ASEAN Chair.
- All the eighteen EAS countries participated in the virtual Summit.
- It re-affirmed the importance of **adhering to international law, respecting territorial integrity and sovereignty, and promoting a rules-based global order**.
- EAS Leaders talks about India's response to pandemic and highlighted India's efforts to support the international community.
- India reiterated its commitment to help make **the COVID vaccine accessible and affordable to all nations.**

Indo-Pacific region

- EAS leaders noted the growing interest in the **Indo-Pacific as an integrated and organic maritime space, with ASEAN at its centre.**
- Need to generate synergy between the ASEAN Outlook and India's Indo-Pacific Oceans Initiative.
- India was equally positive about the Indo-Pacific policies, harmonizing various perspectives and commitment to international cooperation.

On South China Sea

- EAS leaders expressed concern about actions and incidents that erode trust in the region.
- The **Code of Conduct negotiations** should not be prejudicial to legitimate interests of third parties and should be **fully consistent with UNCLOS.**
- It also underlined the **need for greater international cooperation** in the post-COVID world to tackle the challenges cutting across national boundaries such as terrorism, climate change, pandemics etc.

Ha Noi Declaration

- The Summit discussed ways to strengthen the EAS platform and to make it more responsive to emerging challenges on its 15th anniversary and adopted the Ha Noi Declaration.
- Ha Noi Declaration is **REAFFIRMING** the
  - **2005 Kuala Lumpur Declaration** on the East Asia Summit in setting the broad vision, principles, objectives and modalities of the East Asia Summit
  - Commitment in the **2010 Ha Noi Declaration** on the commemoration of the Fifth Anniversary of the East Asia Summit to cooperate in priority areas of the EAS,
  - 2011 **Bali Declaration on the Principles for Mutually Beneficial Relations**, and
  - the **2015 Kuala Lumpur Declaration** on the 10th Anniversary of the East Asia Summit outlining our efforts to strengthen our cooperation for promoting peace, stability, and prosperity in the region;
- The Leaders underlined the **importance of cooperation in ensuring safe, effective and affordable access to COVID-19 vaccines.**
- They called for greater cooperation in keeping the global supply chains open for an expeditious and sustainable economic recovery.

Other leader's statements

- Regional and international issues such as South China Sea, situation in Korean peninsula and Rakhine state were also discussed.
- It also adopted four other Leaders' Statements on **Marine Sustainability; Epidemics Prevention and Response; Women, Peace and Security; and Steady Growth of Regional Economy.**

EAST ASIA SUMMIT

- Established in **2005**, the EAS is a premier leaders-led forum for discussions on important strategic issues in the **Indo-Pacific**, and a leading confidence-building mechanism in the region.
- India strongly believes that the **ASEAN-led frameworks**, of which the EAS is an important part, are at the core of the regional security architecture and need to be strengthened further.
- It is a regional grouping of 18 participating countries –**10 ASEAN countries (Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam), Australia, China, India, Japan, Republic of Korea, New Zealand, Russia and the US.**
- India is a **founding member** of the EAS.
- The 18 members of the EAS together represent 54% of the world population and account for 58% of the global GDP.

Conclusion

- EAS plays a vital part of the regional security architecture. India attaches great importance to EAS as a premier leaders-led forum and sees it as a **logical platform to promote a free, open, inclusive, transparent, rules-based, peaceful and prosperous Indo-Pacific region.**

East Asia summit members

East Asia Summit (EAS)
- It is a regional forum held annually by leaders of, initially, 16 countries in the East Asian, Southeast Asian, South Asian and Oceania regions, based on the ASEAN plus Six mechanism.
- Membership expanded to 18 countries including Russia and the United States at the Sixth EAS in 2011.

FISCAL DEFICIT REACHES 120%

GS-III ECONOMY

Context
- The Union Government's fiscal deficit further widened to ₹9.53 lakh crores, or close to 120% of the annual budget estimate, at the end of October of the current fiscal.
- The deficit widened mainly due to **poor revenue realisation**.
- The lockdown imposed to curb spreading of coronavirus infections had significantly impacted business activities and in turn contributed to sluggish revenue realisation.
- The fiscal deficit at the end of September 2020 was about **8% of the annual budget estimate,** as per the data released by the Controller General of Accounts.

What is 'Fiscal Deficit'?
- **Definition:** The **difference between total revenue and total expenditure of the government** is termed as fiscal deficit.
- It is an indication of the total borrowings needed by the government. While calculating the total revenue, borrowings are not included.
- **Description:** The gross fiscal deficit (GFD) is the excess of total expenditure including loans net of recovery over revenue receipts (including external grants) and non-debt capital receipts.
- The net fiscal deficit is the gross fiscal deficit less net lending of the Central government.
- Generally fiscal deficit takes place either due to **revenue deficit or a major hike in capital expenditure.**
- Capital expenditure is incurred to create long-term assets such as factories, buildings and other development.
- A deficit is usually financed through **borrowing from either the central bank of the country or raising money from capital markets** by issuing different instruments like treasury bills and bonds.

The Fiscal Responsibility and Budget Management Act (FRBM Act) 2003
- It establishes **financial discipline to reduce fiscal deficit.**

When was the FRBM Act enacted?
- The FRBM Bill was introduced by the then finance minister, Yashwant Sinha, in 2000.
- The Bill, approved by the Union Cabinet in 2003, became **effective from July 5, 2004**.

What are the objectives of the FRBM Act?
- The FRBM Act aims to **introduce transparency in India's fiscal management systems**.
- The Act's long-term objective is for India **to achieve fiscal stability** and to give the Reserve Bank of India (RBI) **flexibility to deal with inflation in India**.
- The FRBM Act was enacted to **introduce more equitable distribution of India's deb**t over the years.

Key features of the FRBM Act
- The FRBM Act made it **mandatory for the government** to place the following along with the Union Budget documents in Parliament annually:
  1. Medium Term Fiscal Policy Statement
  2. Macroeconomic Framework Statement
  3. Fiscal Policy Strategy Statement
- The FRBM Act proposed that revenue deficit, fiscal deficit, tax revenue and the total outstanding liabilities be projected as a percentage of Gross Domestic Product (GDP) in the medium-term fiscal policy statement.

FRBM Act exemptions
- On grounds of national security, calamity, etc, the set targets of fiscal deficits and revenue could be exceeded.

How effective has the FRBM Act been?
- Several years have passed since the FRBM Act was enacted, but the Government of India has not been able to achieve targets set under it. The Act has been amended several times.
- In 2013, the government introduced a change and introduced the concept of effective revenue deficit. This implies that effective revenue deficit would be equal to revenue deficit minus grants to states for the creation of capital assets.
- In 2016, a **committee under N K Singh** was set up to suggest changes to the Act. According to the government, the targets set under FRBM Act previously were too rigid.

N K Singh Committee's recommendations were as follows

- **Targets:** The committee suggested using debt as the primary target for fiscal policy and that the target must be achieved by 2023.
- **Fiscal Council:** The committee proposed to create an autonomous Fiscal Council with a chairperson and two members appointed by the Centre (not employees of the government at the time of appointment)
- **Deviations:** The committee suggested that the grounds for the government to deviate from the FRBM Act targets should be clearly specified
- **Borrowings:** According to the suggestions of the committee, the government must not borrow from the RBI, except when
    a. the Centre has to meet a temporary shortfall in receipts
    b. RBI subscribes to government securities to finance any deviations
    c. RBI purchases government securities from the secondary market

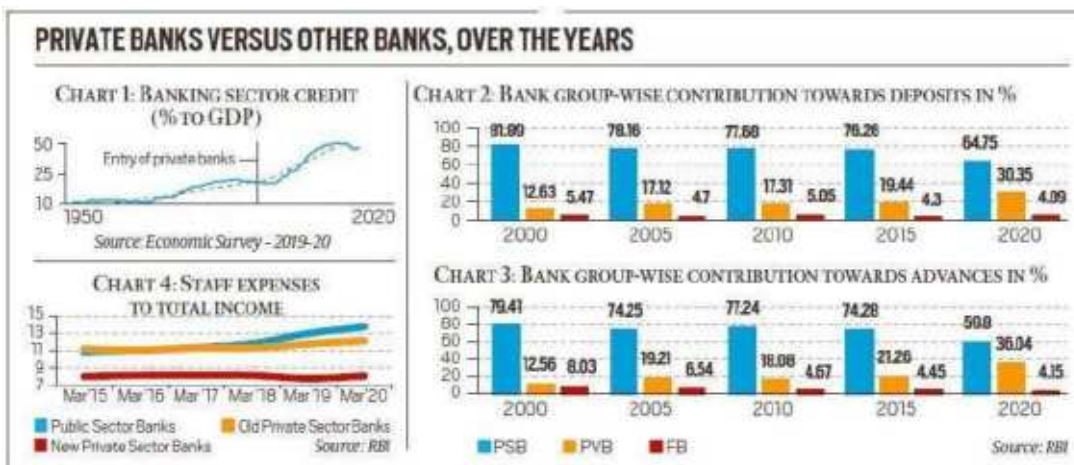## CORPORATE OWNERSHIP OF BANKS

GS-III ECONOMY

Context

- A recent report by an Internal Working Group of the Reserve Bank of India has attracted a lot of attention as well as criticism.
- The IWG was constituted to **"review extant ownership guidelines and corporate structure for Indian private sector banks"**.
- This had to do with allowing large corporate/industrial houses to be promoters of private banks.
- It would be replace the poor governance under the present structure of these (public sector/government-owned) banks with a highly conflicted structure of ownership by industrial houses.

Why was the IWG constituted and what were its recommendations?

- **Low Balance Sheets of Banks**: Even after three decades of rapid growth, "the total balance sheet of banks in India still constitutes less than 70 per cent of the GDP, which is much less compared to global peers" such as China, where this ratio is closer to 175%
- **Inadequate Credit Flow to Private Sector**: Moreover, domestic bank credit to the private sector is just 50% of GDP when in economies such as China, Japan, the US and Korea it is upwards of 150 per cent.
- **Unable to meet Credit Demand of growing Economy:** In other words, India's banking system has been struggling to meet the credit demands of a growing economy.
- **Need to bolster entire System**: There is only one Indian bank in the top 100 banks globally by size. Further, Indian banks are also one of the least cost-efficient. Clearly, India needs to bolster its banking system if it wants to grow at a fast clip
- **Merits of Private banks:** Private banks are not only more efficient and profitable but also have more risk appetite. It is crucial to note that public sector banks have been steadily losing ground to private banks.

Why did RBI recommend it?

- The Indian economy, especially the private sector, needs money (credit) to grow. Far from being able to extend credit, the government-owned banks are struggling to contain their non-performing assets.
- Government finances were already strained before the Covid crisis.
- With growth faltering, revenues have plummeted and the government has limited ability to push for growth through the public sector banks.
- Large corporates, with deep pockets, are the ones with the financial resources to fund India's future growth. Of course, choosing this option is not without serious risks.
- With economic liberalisation in the early 1990s, the economy's credit needs grew and private banks re-entered the picture.

PRIVATE BANKS VERSUS OTHER BANKS, OVER THE YEARS

CHART 1: BANKING SECTOR CREDIT (% TO GDP) — *Source: Economic Survey - 2019-20*

CHART 2: BANK GROUP-WISE CONTRIBUTION TOWARDS DEPOSITS IN %

CHART 4: STAFF EXPENSES TO TOTAL INCOME — *Source: RBI*

CHART 3: BANK GROUP-WISE CONTRIBUTION TOWARDS ADVANCES IN % — *Source: RBI*

- However, even after three decades of rapid growth, "the total balance sheet of banks in India still constitutes less than 70 per cent of the GDP, which is much less compared to global peers" such as China, where this ratio is closer to 175%.
- Moreover, domestic bank credit to the private sector is just 50% of GDP when in economies such as China, Japan, the US and Korea it is upwards of 150 per cent.
- In other words, India's banking system has been struggling to meet the credit demands of a growing economy.
- There is only one Indian bank in the top 100 banks globally by size. Further, Indian banks are also one of the least cost-efficient.
- Clearly, India needs to bolster its banking system if it wants to grow at a fast clip. In this regard, it is crucial to note that public sector banks have been steadily losing ground to private banks.
- Private banks are not only more efficient and profitable but also have more risk appetite.
- It is in this background that the IWG was asked to suggest changes that not only boost private sector banking but also make it safer.
- For the most part, the IWG's recommendations are unexceptionable in that they bolster prudential norms so that the interests of the depositors are secure and banks and their promoters are not able to game the system.

Cons of corporate ownership of Banks

- Main concern is related to **connected lending** where the bank will provide funds mostly to entities/persons related to its corporate promoter. It will reduce credit availability for other sectors, which may be more deserving.
- It may increase power of certain industrial houses/ individuals giving them monopolistic control in certain sectors of economy due to excess to unlimited funds.

What is connected lending?

- It refers to **a situation where the promoter of a bank is also a borrower** and, as such, it is **possible for a promoter to channel the depositors' money** into their own ventures.
- Connected lending has been happening for a long time and the RBI has been always behind the curve in spotting it.
- The recent episodes in ICICI Bank, Yes Bank, DHFL etc. were all examples of connected lending.
- The so-called **ever-greening of loans** (where one loan after another is extended to enable the borrower to pay back the previous one) is often the starting point of such lending.
- Unlike a non-bank finance company or NBFC (many of which are backed by large corporates), a bank accepts deposits from common Indians and that is what makes this riskier.
- Simply put, it is prudent to keep the class of borrowers (big companies) apart from the class of lenders (banks).
- Past examples of such mingling — such as Japan's Keiretsu and Korea's Chaebol — came unstuck during the 1998 crisis with disastrous consequences for the broader economy.

Regulation - The IWG has called for a legal framework to deal with interconnected lending

- It also recommended having a mechanism in place to effectively supervise conglomerates that venture into banking.
- However, any legal framework and supervisory mechanism will be less adequate to deal with the risks of interconnected lending in the Indian context.
  - o Corporate houses are proficient at routing funds through a network of entities in India and abroad.
  - o So, tracing interconnected lending will be a challenge.
  - o Also, monitoring of transactions of corporate houses will require the cooperation of various law enforcement agencies.
- **Ex-post** - The RBI can only react to interconnected lending ex-post i.e. after substantial exposure to the entities of the corporate house has happened.
- Given this, it is less likely to be able to prevent such exposure.
- Even after spotting, it is challenging to make course corrections.
- This is because any action that the RBI may take in response could cause a flight of deposits from the bank concerned and precipitate its failure.

TECHNICAL RECESSION   *GS-III ECONOMY*

Context

- The Reserve Bank of India's (RBI) latest monthly bulletin features an article 'An Economic Activity Index for India', which projected that India's GDP (Gross Domestic Product) contracted by 8.6% in the July-September quarter of the financial year ending in March 2021.
- Thus, "India has entered a **technical recession in the first half of 2020-21 for the first time** in its history with Q2:2020-21 likely to record the second successive quarter of GDP contraction.

What is a technical recession?

- A technical recession is a term used to describe t**wo consecutive quarters of decline in output.**
- In the case of a nation's economy, the term usually refers to **back-to-back contractions in real GDP.**

Difference between a 'technical recession' and a 'recession'

- Former term is mainly used to capture the trend in GDP, the latter expression encompasses an appreciably **more broad-based decline in economic activity** that covers several economic variables including employment, household and corporate incomes and sales at businesses.
- Another key feature of a technical recession is that **it is most often caused by a one-off event** (in this case, the COVID-19 pandemic and the lockdowns imposed to combat it) and is **generally shorter in duration.**

Which are some of the other economies to have recently experienced a technical recession?

- The COVID-19 pandemic has had a devastating impact on economic activity worldwide.
- Indonesia, for instance, slid to a recession for the first time in two decades as real GDP in Southeast Asia's largest economy shrank 3.49% in the three months ended September.
- The country had last experienced consecutive contractions in the wake of the Asian financial crisis in the late 1990s.
- The U.K. entered a recession when its economic output contracted by a record 21.7% in the April-June quarter. Britain's GDP shrank by 1.6% in the first quarter of 2020.
- Brazil's economy also experienced a 11.4% contraction in the three months ended June, following a 0.3% fall in output in the first quarter, pushing it into a recession.

What does the technical recession presage for the Indian economy's outlook?

- The central bank has also warned of "formidable" risks to this upbeat outlook, the foremost being "the unrelenting pressure of inflation".
- The RBI has cautioned that there is a real threat that price pressures could become more generalised, undermining the credibility of policy interventions.

What is a recessionary phase?

- At its simplest, in any economy, a recessionary phase is the **counterpart of an expansionary phase**.
- In other words, when the overall output of goods and services — typically measured by the GDP — increases from one quarter (or month) to another, the economy is said to be in an expansionary phase.
- And when the **GDP contracts from one quarter to another, the economy is said to be in a recessionary phase**.
- Together, these two phases create what is called a "**business cycle**" in any economy.
- A full business cycle could last anywhere between one year and a decade.
- The line graph accompanying this article maps India's quarterly real GDP growth since 1951.
- As one can see, this line goes up and down. The peaks and troughs show the different expansionary and recessionary phases of the economy.

How is a recession different?

- When a **recessionary phase sustains for long enough, it is called a recession.**
- In other words, when the GDP contracts for a long enough period, the economy is said to be in a recession."
- There is, however, **no universally accepted definition of a recession** — as in, for how long should the GDP contract before an economy is said to be in a recession.
- But most economists agree with the definition that the National Bureau of Economic Research (NBER) in the United States uses.
- "During a recession, a significant decline in economic activity spreads across the economy and can last from a few months to more than a year".
- The NBER's Business Cycle Dating Committee typically looks at various variables — employment, consumption etc — apart from GDP growth to arrive at a decision.
- It also looks at the "depth, diffusion, and duration" of decline in economic activity to determine whether an economy is in a recession or not.
- For example, in the case of the most recent dip in economic activity in the US, which started in February 2020 as a result of the Covid-19 pandemic, the drop in activity has been so great and so widely diffused throughout the economy that the downturn would have been classified as a recession even if it had proved to be quite brief.

Was India's technical recession unexpected?

- Given the nature of the problem — the pandemic — as soon as the lockdown was announced in March, most economists expected the Indian economy to go into recession.
- In fact, most estimates expect the economy to contract for at least one more quarter — that is October to December, currently under way.

How long do recessions last?

- Typically, recessions last for a few quarters.
- If they continue for years, they are referred to as "depressions".
- But a depression is quite rare; the last one was during the 1930s in the US.
- In the current scenario, the key determinant for any economy to come out of recession is to control the spread of Covid-19.
- In India's case, Finance Minister has expressed hope that India's recession could be already over and that the economy may register positive growth in the current quarter.

Economists have pointed out that the business cycle is characterised by four phases or stages in which economies alternate:

(i) Depression   (ii) Recovery

(iii) Boom   (iv) Recession

DEPRESSION

Though depression has visited the world economy only once in 1929, economists have pinpointed enough number of traits to recognise it. The major traits of depression could be as given below:

(i) an extremely low aggregate demand in the economy causes activities to decelerate;

(ii) the inflation being comparatively lower;

(iii) the employment avenues start shrinking forcing unemployment rate to grow fast;

(iv) to keep the business going, production houses go for forced labour-cuts or retrenchment

(to cut down production cost and be competitive in the market,) etc.

The economic situations become so chaotic in the phase of depression that governments have almost no control over the economy. The Great Depression of 1929 gave rise to the ideas of strong government intervention in the economy, such as deficit financing, monetary management, etc.

What the governments may do if depression visits the economy? The simple answer the world has been able to find is to repeat the policy measures of 1929. The best way to avoid depression is not to let it visit. This is why every modern economy keeps extra-vigil on the major symptoms of its economy so that the prevention-measures can be taken in time and depression is avoided.

RECOVERY

An economy tries to come out of the low production phase to survive. The low production phase might be depression, recession or slowdown with the former being the worst and rare, governments take many new fiscal and monetary measures to boost demand and production and ultimately a recovery in an economy is managed. The business cycle of recovery may show the following major economy traits:

(i) an upturn in aggregate (total) demand which has to be accompanied by increase in the level of production;

(ii) production process expands and new investments become attractive;

(iii) as demand goes upward, inflation also moves upward making borrowing cheaper for investors;

(iv) with an upturn in production, new employment avenues are created and unemployment rate starts declining; etc.

With the above symptoms, people's income go for a certain increase which creates new demand and a cycle of demand and production (supply) starts playing hand-in-hand to recover the economy. To recover an economy, governments usually go for tax-breaks, interest cuts, an increase in salaries of its employees, etc. Assimilation of innovations by the entrepreneurs and search for new frontiers of enterprise do play a very vital role in the process of recovery provided these activities are at first incentives by the governments.

The Euro-American economies recovered out of the Great Depression with the help of the measures cited above. Such recoveries have been seen many times around the world when economies recovered from slowdown or the recessionary phases. The best example of recent times could be cited from India of 1997 to 2002 when the economy suffered severe bouts of slowdown and recession.

BOOM

A strong upward fluctuation in the economic activities is called boom. As economies try to recover out of the phases of slowdown, recession and depression at times the measures taken by the governments as well as the private sector might put economic activities as such which the economic systems fail to digest. This is the phase of the boom. The major economic traits of boom may be listed as given below:

(i) an accelerated and prolonged increase in the demand;

(ii) demand peaks up to such a high level that it exceeds sustainable output/production levels;

(iii) the economy heats up and a demand-supply lag is visible;

(iv) the market forces mismatch (i.e., demand and supply disequilibirium) and tend to create a situation where inflation starts going upward;

(v) the economy might face structural problems like shortage of investible capital, lower savings, falling standard of living, creation of a sellers' market.

The phase of recovery is considered good for the economy and it reaches the stage of boom which is considered better.

RECESSION

This is somewhat similar to the phase of 'depression' — we may call it a mild form of depression— fatal for economies as this may lead to depression if not handled with care and in time. The financial crises which followed the US 'sub-prime crisis' in almost the whole Euro-American economies has basically brought in 'severe recessionary' trends there. Major traits of recession, to a great extent, are similar to that of 'depression' [except the point (iv) of the Depression, discussed earlier]— may be summed up as follows:

(i) there is a general fall in demand as economic activities takes a downturn;

(ii) inflation remains lower or/and shows further signs of falling down;

(iii) employment rate falls/unemployment rate grows;

(iv) Industries resort to 'price cuts' to sustain their business.

In the financial year 1996–97, the Indian economy was taken up by the cycle of recession—basically due to a general downturn in domestic as well as foreign demands, initiated by the South East Asian Currency Crisis of mid-1990s.

INDIA OPTING OUT OF RCEP

GS-III ECONOMY

Context

- The regional trade agreement has been signed by 15 countries, without India. The new trading bloc has made it clear that the door will remain open for India to return to the negotiating table.

What is RCEP?

- Described as the "largest" regional trading agreement to this day, 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.

- The purpose of RCEP was to make it easier for products and services of each of these countries to be available across this region.

- Negotiations to chart out this deal had been on since 2013, and India was expected to be a signatory until its decision last November.

What India chose not to join RCEP

- India decided to exit discussions over "**significant outstanding issues**".

- By joining RCEP, India would have further risked a flood of cheap Chinese imports in sectors like electronics.

- India had tried and failed to win substantial concessions in areas like **work visas for its information technology-enabled services.**

- Two of India's proposals—**an RCEP business travel card** and an **RCEP**

service supplier card—failed to find favour with a majority of the bloc's members.

- Its decision was **to safeguard the interests of industries like agriculture and dairy and to give an advantage to the country's services sector**.

How far is China's presence a factor?
Escalated tensions

- Escalated tension with China is considered to be a major reason for India's decision.
- Major issues that were unresolved during RCEP negotiations were related to the exposure that India would have to China.

Surge in imports

- This included India's fears that there was "inadequate" protection against surges in imports.
- It felt there could also be a possible circumvention of rules of origin— the criteria used to determine the national source of a product.
- In the absence of this, other partner countries could dump their products by routing them through other countries that enjoyed lower tariffs.

Inability to take countermeasures

- India was unable to ensure countermeasures like an auto-trigger mechanism to raise tariffs on products when their imports crossed a certain threshold.
- It also wanted RCEP to exclude most-favoured-nation (MFN) obligations from the investment, especially to countries with which it has border disputes.

Lack of assurance of market access to India

- RCEP also lacked clear assurance over market access issues in countries such as China and non-tariff barriers on Indian companies.
- The agreement would have forced India to extend benefits given to other countries for sensitive sectors like defence to all RCEP members.

Trade balance

- India's stance on the deal also comes as a result of learnings from unfavourable trade balances that it has with several RCEP members, with some of which it even has Free Trade Agreements.
- India has trade deficits with 11 of the 15 RCEP countries, and some experts feel that India has been unable to leverage its existing FTAs with several RCEP members to increase exports.

What can the decision cost India?

- There are concerns that India's decision would **impact its bilateral trade ties** with RCEP member nations, as they may be more inclined to focus on bolstering economic ties within the bloc.
- The move could potentially leave India with **less scope to tap the large market** that RCEP presents —the size of the deal is mammoth, as the countries involved account for over 2 billion of the world's population.
- Given attempts by countries like Japan to get India back into the deal, there are also worries that India's decision **could impact the Australia-India-Japan network in the Indo-Pacific**.
- It could potentially put a **spanner in the works on informal talks to promote a Supply Chain Resilience Initiative** among the three.
- However, India's stance on the deal also comes as a result of learnings from **unfavourable trade balances** that it has with several RCEP members, with some of which it even has FTAs.
- An internal assessment by the government has revealed that the **growth in trade (CAGR) with partners over the last five financial years was a modest 7.1%.** While "there has been growth rate in both imports from and exports to these FTA partners", the "utilisation rate" of FTAs both for India and its partners has been "moderate".
- India has **trade deficits with 11 of the 15 RCEP countries**, and some experts feel that India has been unable to leverage its existing bilateral free trade agreements with several RCEP members to increase exports.

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 in the terms of the pact.
- RCEP signatory states said they **plan to commence negotiations with India** once it submits a request of its intention to join the pact "in writing", and it may participate in meetings as an observer prior to its accession.

INDIA'S TRADE BALANCE WITH RCEP MEMBERS		
RCEP Member	2018-19	2019-20
ASEAN	-21.85	-23.82
China	-53.58	-48.65
South Korea	-12.05	-10.81
Japan	-7.91	-7.91
New Zealand	-0.25	-0.14
Australia	-9.61	-6.93

All figures in $ billion

Source: Ministry of Commerce and Industry

- However, the possible alternative that India may be exploring is reviews of its existing bilateral FTAs with some of these RCEP members as well as newer agreements with other markets with potential for Indian exports. Over **20 negotiations are underway.**
- India currently has agreements with members like the ASEAN bloc, South Korea and Japan and is negotiating agreements with members like Australia and New Zealand.
- Two reviews of the **India-Singapore CECA** have been completed; the **India-Bhutan Agreement on Trade Commerce and Transit** was renewed in 2016; and the **India-Nepal Treaty of Trade** was extended in 2016.
- Eight rounds of negotiations have been completed for the review of the **India-Korea CEPA**, which began in 2016.
- India has taken up the review of the **India-Japan CEPA and India-ASEAN FTA** with its trading partners.
- There is also a growing view that it would serve India's interest to invest strongly in negotiating bilateral agreements with the US and the EU, both currently a work in progress.

PRODUCTION LINKED INCENTIVE SCHEME

GS-III ECONOMY

Context
- The government aims to expand the ambit of the production-linked incentive (PLI) scheme to include as many as ten more sectors such as food processing and textiles other than the already included mobile phones, allied equipment, pharmaceutical ingredients and medical devices.
- Apart from cutting down on imports, the PLI scheme also looks to capture the growing demand in the domestic market.

What is the production linked incentive scheme?
- In order to boost domestic manufacturing and cut down on import bills, the central government has introduced a scheme that **aims to give companies incentives on incremental sales from products manufactured in domestic units.**
- Apart from **inviting foreign companies** to set shop in India, the scheme also aims to **encourage local companies to set up or expand existing manufacturing units.**
- So far, the scheme has been rolled out for mobile and allied equipment as well as pharmaceutical ingredients and medical devices manufacturing.
- These sectors are labour intensive and are likely, and the hope is that they would create new jobs for the ballooning employable workforce of India.
- The objective is really to make India more compliant with our WTO (World Trade Organisation) commitments and also make it non-discriminatory and neutral with respect to domestic sales and exports.

Why is the production linked scheme needed?
- The idea of PLI is important as the government cannot continue making investments in these capital intensive sectors as they need longer times for start giving the returns.
- Instead, it can invite global companies with adequate capital to set up capacities in India.
- Electronics and pharmaceuticals themselves are large sectors, so, at this point, if the government can focus on labour intensive sectors like garments and leather, it would be really helpful.

Which sectors currently have the PLI scheme?
- Central government introduced the PLI scheme for mobile manufacturing as well as pharmaceutical ingredients and medical devices.
- As a part of the PLI scheme for mobile and electronic equipment manufacturing, an incentive of 4-6 per cent is planned for electronics companies, which manufacture mobile phones and other electronic components such as transistors, diodes, thyristors, resistors, capacitors and nano-electronic components such as micro electromechanical systems.
- The PLI scheme for pharmaceutical ingredients and medical devices seeks that applicants will commit a certain amount prescribed by the government as investment to build capacities in these areas.
- The government will pay the companies it selects for the scheme a specific proportion of their turnover from making and selling the bulk drugs or medical devices as an incentive over the next few years.
- The amount of the incentive would decrease as the years go by.
- The PLI scheme for bulk drugs focuses on building economies of scale in over 50 critical active pharmaceutical ingredients, including penicillin G, vitamin B1, dexamethasone, meropenem, atorvastatin and aspirin.

Expected outcomes:
- Will make Indian manufacturers globally competitive,
- attract investment in the areas of core competency and cutting-edge technology;

- ensure efficiencies;
- create economies of scale;
- enhance exports and make India an integral part of the global supply chain.

Which sectors are likely to see PLI schemes introduced in the near future?

- Government was looking to introduce PLI scheme in about nine to ten sectors, apart from the two already existing ones.
- Reports have suggested that food processing, textiles, leather as well as battery manufacturing are likely candidates.
- Like existing PLI schemes, the new sectors could also see the government offering them sops and bonuses for incremental sales done through units both old and new units.
- However, unlike the previous schemes brought to boost domestic manufacturing, this one aims to give all the sops and benefits only if the companies are able to prove that they had incremental sales every year for the next five years.

GST COMPENSATION

GS-III   ECONOMY

Context

- After Puducherry, Rajasthan became the latest state to opt for a special borrowing window for meeting its compensation shortfall under Goods and Services Tax (GST).
- Kerala, Punjab, West Bengal, Chhattisgarh, Jharkhand — are yet to join any borrowing options floated by central government to resolve the issue of compensation deficit.
- Borrowing has been made very simple for States by keeping the interest rate low.

Background

- The state's **GST revenue gap in 2020-21** is expected to be about Rs. 3 lakh crore, while cess collections are only projected to reach Rs. 65,000 crore, leaving a **shortfall of Rs. 2.35 lakh crore.**
  - The Centre **distinguished the GST shortfall into two types:**
- Due to GST implementation itself.
- Caused by the impact of **Covid-19**.
  - The Finance Minister termed the fall of GST revenue due to Covid-19 as an **act of God.** However, the **GST Compensation Act, 2017** did not foresee an act of God.
- The GST Compensation Act, 2017 **guaranteed states that they would be compensated for any loss of revenue in the first five years of GST implementation**, until 2022, using a **cess levied on sin and luxury goods.**
  - The Centre has been at loggerheads with many states over the compensation issue due to GST shortfall. In August 2020 at **GST Council** meet, the **Centre had proposed two options to states to meet the shortfall:**
- A special window could be provided, in consultation with the **Reserve Bank of India (RBI)**, so that the states can get Rs. 97,000 crore at a reasonable rate of interest, the amount can be repaid after five years (of GST implementation) ending 2022 from cess collection.
- Another option is that this entire gap of Rs. 2.35 lakh crore can be met by the borrowing by the states in consultation with RBI.

What is the special window for borrowing?

- Centre would borrow from the market and then act as an intermediary to arrange back-to-back loans to pay the GST compensation shortfall of Rs 1.1 lakh crores to state governments.
- This arrangement **will not reflect in the fiscal deficit** of the Centre, and will appear as capital receipts for state governments.
- The total GST revenue shortfall for the current fiscal was estimated at Rs 3 lakh crore, of which compensation cess collection was estimated at Rs 65,000 crore, leaving a compensation deficit of Rs 2.35 lakh crore.
- Of this Rs 2.35 lakh crore, Rs 1.1 lakh crore has been estimated as shortfall on account of GST implementation, while the rest is being estimated as the impact of the pandemic.
- In August, the Centre gave **two options** to the states — either borrow 1.10 lakh crore from a **special window facilitated by the RBI,** or borrow Rs 1.8 lakh crore from the **market**.

Why states not borrowing instead of the Centre enabling the borrowing?

- One of the primary concerns for that mechanism was that states, would have tapped the market for borrowing separately, leading to differential rates with a wide variance in interest rates between the states with more debt and those with less debt.

- Yields for state development loans (SDLs), which is the tool for market borrowing by states, are generally at a premium, higher than the yield on the central government's government securities.
- It would have been **costlier for states to borrow** rather than the Centre borrowing at a uniform rate and then passing it on to them as a back-to-back loan.

How has the scheme progressed so far?

- Under the special window, the Centre has already borrowed Rs 12,000 crores in two equal instalments and passed it on to 21 states and three Union Territories.
- The first tranche of the borrowing was transferred Rs 6,000 crore to 16 states and two UTs, including Maharashtra, Gujarat, Karnataka, Himachal Pradesh, Bihar, Goa, Assam, Uttar Pradesh, Delhi and Jammu & Kashmir.

What is the way forward for the rest?

- The Finance Ministry is now engaged in dialogue with the opposing states to join the scheme.
- Borrowing issue has only been resolved for the compensation shortfall for this fiscal and bigger question is what is going to happen in FY2022.
- Rather than waiting for the last moment and doing back and forth, the GST Council should have thrashed out a resolution.

Goods and Services Tax
- GST, or Goods and Services Tax, is an indirect tax that customers have to bear when they buy any goods or services, such as food, clothes, electronics, items of daily needs, transportation, travel, etc.
- It is levied on the manufacturer or seller goods and the providers of services.
- The sellers usually add the tax expense into their costs, and the price the customers pay is inclusive of GST.

Benefits of GST in India
- GST was brought in as a revolutionary change and India's biggest tax system overhaul since Independence. GST replaced a plethora of indirect taxes such as states' sales tax, service tax, excise, etc., with a single central tax regime applied uniformly on all products and services.
- However, the biggest benefit of GST was that it opened up entire India as a single unified market allowing for free movement of goods across states' borders, as opposed to the earlier scenario where state borders became barriers.
- GST allowed for faster movement of trucks and led to requirements for fewer warehouses across several states.
- However, GST has multiple tax rate slabs for different categories of products – a fact that still makes it more complicated than many expected.

What are the different types of GST?
- Central GST (CGST): GST paid on each transaction is divided into two equal parts: the part for the Centre is termed as CGST.
- State GST (SGST): The part of a state's share of GST, when a transaction takes place within the state, is called SGST.
- Union territory GST (UGST): When a transaction takes place within a union territory (UT) without a legislature, the part of GST that the UT gets is called UGST.
- Integrated GST (IGST): When a transaction takes place between two states/UTs or between a state/UT and any foreign territory, IGST is levied without any bifurcation on the applicable GST rate.

What items are not taxed or covered under GST?
There are a few products, which were not under the purview of GST till long after its launch.
- Alcohol for human consumption: On alcohol, the power to tax remains with the states.
- Petroleum products: GST was not imposed on five petroleum products — crude oil, diesel, petrol, natural gas and ATF.
- Tobacco: Along with GST, the Central Government has the power to levy additional excise duty on tobacco products.
- Entertainment tax: The power to decide on entertainment tax levied by local bodies remains with the states.

Also, there are some exceptions on Indian Railways tickets, where instead of the destination, the origin of the journey is taken into consideration. For example, if Rajdhani Express is registered in Delhi, on the tickets from Delhi, CGST and SGST will be levied, while IGST will be charged when the journey originates at a place other than Delhi.

GST Council
- The GST council is the key decision-making body that takse all important decisions regarding the GST.
- The GST Council dictates tax rate, tax exemption, the due date of forms, tax laws, and tax deadlines, keeping in mind special rates and provisions for some states.
- The predominant responsibility of the GST Council is to ensure to have one uniform tax rate for goods and services across the nation.

Structure of GST Council
- GST Council is a joint forum for the Centre and the States. It consists of the following members:
- The Union Finance Minister is the Chairperson
- As a member, the Union Minister of State is the in charge of Revenue of Finance
- The Minister in charge of finance or taxation or any other Minister nominated by each State government, as members.

GST Council recommendations
- Article 279A (4) specifies that the Council can make recommendations to the Union and the States on the important issues related to GST, such as, the goods and services will be subject or exempted from the Goods and Services Tax.

AGRICULTURAL EXPORTS

GS-III ECONOMY

Context

- India's agricultural exports are up 4.6% year-on-year in dollar terms during April-September.
- This comes even as the country's overall merchandise exports for the same period have registered a 21.2% annual decline.
- It also mirrors a larger trend — of the **farm sector doing reasonably well** amid an economy likely to contract by 9.5% in 2020-21 (April-March).

Rice on top

- The star performer has been rice, with the value of shipments increasing by well over a third to $4.08 billion in April-September.
- The growth has come **more from the non-basmati rather than basmati segment .**
- India exports basmati rice largely to the West Asian countries (Iran, Saudi Arabia, Iraq, United Arab Emirates, Kuwait and Yemen), besides the US and UK.
- The destinations for non-basmati are mainly West Africa (Benin, Nigeria, Togo, Ivory Coast, Liberia, Guinea and Senegal), East Africa (Somalia and Djibouti), UAE and Nepal.

INDIA'S EXPORT OF AGRICULTURAL COMMODITIES

(IN MILLION DOLLARS)

	2018-19	2019-20	Apr-Sep 2019	Apr-Sep 2020	% Growth
Marine products	6802.56	6722.07	3355.65	2709.98	-19.24
Basmati rice	4712.44	4372.00	2032.10	2123.49	4.50
Non-Basmati rice	3038.16	2031.25	1021.77	1953.70	91.21
Buffalo meat	3587.15	3199.60	1599.87	1365.13	-14.67
Spices	3322.45	3621.38	1962.34	1907.79	-2.78
Raw Cotton	2104.41	1057.34	226.44	464.58	105.17
Fruits & Vegetables*	1732.21	1531.17	753.50	735.69	-2.36
Oilseeds	1156.76	1318.08	480.77	507.99	5.66
Oilmeals	1508.65	827.90	430.11	460.04	6.96
Castor Oil	883.78	894.36	523.11	438.01	-16.27
Coffee	822.34	738.86	392.64	367.54	-6.39
Tobacco	981.34	905.15	485.79	421.26	-13.28
Processed F&V	933.61	958.54	451.11	535.50	18.71
Cashew	658.30	570.07	282.85	169.75	-39.99
Tea	830.93	826.53	444.02	356.54	-19.70
Sugar	1360.29	1966.44	808.32	1362.40	68.55
Guargum meal	674.88	461.53	268.09	122.03	-54.48
TOTAL EXPORTS**	39203.53	35600.47	17317.75	18116.00	4.61
TOTAL IMPORTS	20920.34	21859.99	11225.97	9543.45	-14.99
TRADE SURPLUS	18283.19	13740.48	6091.78	8572.55	40.72

*Includes seeds; **Incudes other farm commodities
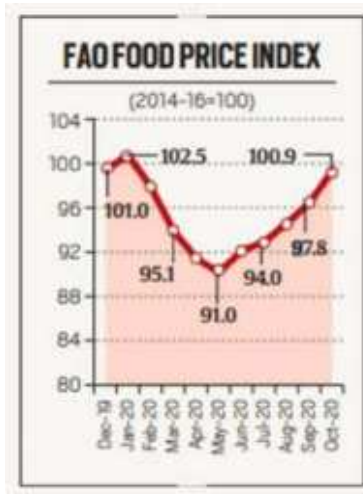Source: Department of Commerce

- Another agri-commodity that is on course to post all-time-high exports in 2020-21 is **Both rice and sugar exports** are being propped up by rising global prices.
- A third commodity whose exports have done well this year, and the prospects also look good, is.

The broader trend

- The general story in most agri-commodities is that world prices, which were hardening in the months just before the pandemic and then crashed with lockdown measures imposed by most countries, have since resumed their earlier trajectory.
- This is captured by the **UN Food and Agriculture Organization's (FAO) Food Price Index (**base year: 2014-16=100), which rose from 93.3 points in September 2019 to a 61-month-high of 102.5 in January 2020.
- The recovery in global prices —a combination of demand revival from
  - o unlockdowns continuing supply chain disruptions (including from a shortage of shipping containers),
  - o Chinese stockpiling (in anticipation of a fresh corona outbreak during the winter) and
  - o dry weather in producer countries such as Thailand, Argentina, Brazil and Ukraine — isn't bad news for Indian farmers.
- The overall agri-trade surplus has widened from $ 6.1 billion in April-September 2019 to $8.6 billion in April-September 2020.

FAO FOOD PRICE INDEX

(2014-16=100)

Values shown: 101.0, 102.5, 100.9, 95.1, 94.0, 91.0, 97.8 (Dec-19 to Oct-20)

Food and Agriculture Organisation:
- The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger.
- **Objective:** The goal of FAO is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives.
- With over 194 member states, FAO works in over 130 countries worldwide.

FAO Food Price Index
- The FAO Food Price Index (FFPI) is a measure of the monthly change in international prices of a basket of food commodities.
- It consists of the average of five commodity group price indices weighted by the average export shares of each of the groups over 2014-2016.

Context

- NASA has recently observed a mix of X-ray and radio signals never observed before in the Milky Way.
- Significantly, the flare-up it observed included the first fast radio burst (FRB) seen within the galaxy.

What are FRBs?

- Fast radio bursts, or FRBs, are incredibly powerful **flashes of radio waves** that mostly come from distant galaxies.
- Duration of these bright bursts of **radio waves lie in the millisecond-scale**.
- Due to this it is **difficult to detect them** and determine their position in the sky.
- Radio waves are produced by astronomical objects with changing magnetic fields.
- Astronomers estimate the average FRB releases as much energy in a millisecond as the sun puts out in 3 days.
- The first FRB was discovered by Duncan Lorimer in 2007, and it is therefore commonly referred to as the **Lorimer Burst.**
- The exact origin and cause of the FRBs is still the subject of investigation; proposals for **their origin range from a rapidly rotating neutron star and a black hole, to extraterrestrial intelligence**.
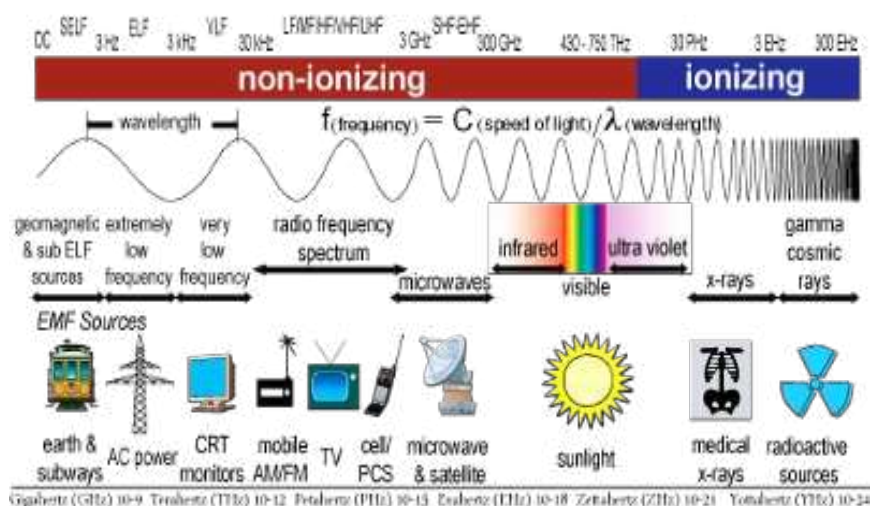
What is the origin of the FRB detected in Milky Way Galaxy?

- The source of the FRB detected in the Milky Way is a very powerful magnetic neutron star, referred to as a magnetar, called SGR 1935+2154 or SGR 1935.
- It is **located in the constellation Vulpecula** and is estimated to be between 14,000-41,000 light-years away.
- The FRBs as X-ray bursts are lasting less than a second.

Magnetar

- A magnetar is a neutron star.
- Neutron stars are formed when the core of a massive star undergoes gravitational collapse when it reaches the end of its life.
- This results in the matter being so tightly packed that even a sugar-cube sized amount of material taken from such a star weighs more than 1 billion tons.
- Magnetars are a subclass of these neutrons that occasionally release flares with more energy in a fraction of a second than the Sun is capable of emitting in tens of thousands of years.

DIFFERENT NEUTRON STAR TYPES

A neutron star is a dense core left behind after a massive star goes supernova and explodes. Though only about 10 to 20 miles (15 to 30 kilometers) wide, they can have three times the mass of our Sun, making them some of the densest objects in the universe, second only to black holes. A teaspoon of neutron star material would weigh 4 billion tons on Earth. There are several types of neutron stars.

MAGNETAR

A magnetar is a neutron star with a particularly strong magnetic field, about 1,000 times stronger than a normal neutron star. That's about a trillion times stronger than Earth's magnetic field and about 100 million times stronger than the most powerful magnets ever made by humans. Scientists have only discovered about 30 magnetars so far.

PULSAR

Most of the roughly 3,000 known neutron stars are pulsars, which emit twin beams of radiation from their magnetic poles. Those poles may not be precisely aligned with the neutron star's rotation axis, so as the neutron star spins, the beams sweep across the sky, like beams from a lighthouse. To observers on Earth, this can make it look as though the pulsar's light is pulsing on and off.

MAGNETAR + PULSAR

There are now six known neutron stars that are both pulsars and magnetars.

Facts accurate as of June 2020

ARIEL

GS-III   SCIENCE & TECHNOLOGY

Context
- The European Space Agency (ESA) has formally adopted Ariel.

About
- ARIEL stands for **Atmospheric Remote-sensing Infrared Exoplanet Large-survey.**
- Ariel, the explorer that will study the nature, formation and evolution of exoplanets.

Exoplanets
- Planets that lie outside of the Solar System and orbit around stars other than the Sun are called exoplanets or extrasolar planets.
- Exoplanets are not easy to detect since they are much less brighter than the stars they orbit and hence it is difficult to see them directly using telescopes.
- Only a handful of exoplanets have been found using telescopes and the rest have been detected using indirect methods.
- As of now the existence of more than 4,000 exoplanets is considered confirmed.
- There are thousands of other candidate exoplanets that need further observation.
- **Proxima Centauri b is the closest exoplanet** to Earth and is four light-years away.
- It inhabits the Goldilock Zone/"habitable zone" of its star, which means that it could possibly have liquid water on its surface.

## HOW DO WE DETECT EXOPLANETS?
THE ASTROMETRY METHOD

As stars and planets pull on each other, sometimes we can see the star pulled in unexpected paths. When we notice a star moving irregularly in comparison to other nearby stars, that might indicate an exoplanet. Exoplanet, you leave that star alone!

Best for: ✓
- Finding exoplanets in distant orbits
- Finding exoplanets that do not cross stars
- Determining an exoplanet's mass

Not great for: ✗
- Finding faraway exoplanets
- Determining an exoplanet's diameter
- Finding many exoplanets at once

STAR POSITIONS
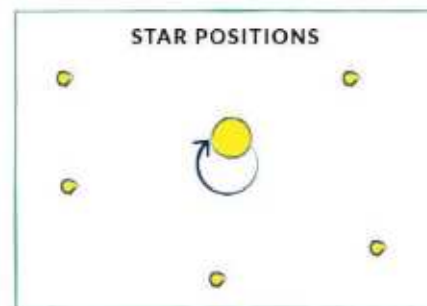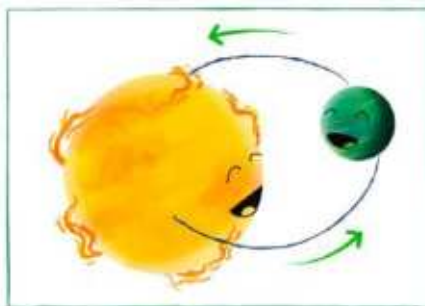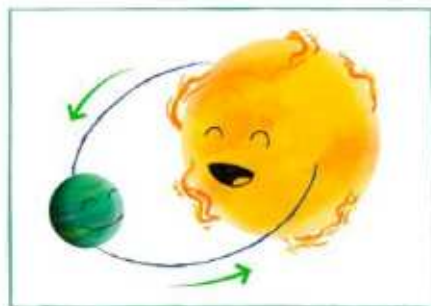
Significance of ARIEL
- Ariel, which will be launched in 2029, will perform a large-scale survey of over a thousand exoplanets over a period of four years.
- Ariel is the **first mission of its kind dedicated to measuring the chemical composition and thermal structures of hundreds of exoplanets.**
- Further, Ariel will help to answer one of the key questions of ESA's Cosmic Vision Plan, which is, **"What are the conditions for planet formation and the emergence of life?"**

Current Potential Habitable Exoplanets

BULK DRUG PARK

GS-III SCIENCE & TECHNOLOGY

Context
- Himachal Pradesh is eyeing for the allotment of a bulk drug park under a central government scheme for setting up three such parks across the country.

What are bulk drugs or APIs?
- A bulk drug, also called an active pharmaceutical ingredient (API), is the key ingredient of a drug or medicine.

Digging deeper
- All drugs are made up of two core components—the API, which is the central ingredient, and the excipient, the substances other than the drug that help deliver the medication to your system.
- Excipients are chemically inactive substances, such as lactose or mineral oil in the pill.
- API lends the pill the desired therapeutic effect or produces the intended pharmacological activity.

ROLES OF EXCIPIENTS
EXCIPIENTS HAVE DIFFERENT ROLES IN A FORMULATION. SOME OF THE MAJOR ONES CAN BE:

Aid in the processing of the drug delivery system during its manufacture.

Protect, support or enhance stability, bioavailability, or patient acceptablity.

Assist in product identification and enhance any attribute of the overall safety.

Assist in the effectiveness and /or delivery of the drug in use.

Assist in maintaining the integrity of the drug product during storage.

Key Starting Material and Drug Intermediaries

- APIs are prepared from multiple reactions involving chemicals and solvents.
- The primary chemical or the basic raw material which undergoes reactions to form an API is called the key starting material, or KSM.
- Chemical compounds formed during the intermediate stages during these reactions are called drug intermediates or DIs.

Why is India promoting bulk drug parks?

- India has the third largest pharmaceutical industries in the world by volume.
- Despite this India's industries largely depends on other countries, particularly China, for importing APIs, DIs and KSMs.
- This year, due to COVID-19 and India-China Border conflict drug manufacturers in India suffered repeated setbacks owing to disruption in imports.
- Thus, the government has called for greater self-reliance across all industries.
- The department of pharmaceuticals announced a scheme for the promotion of three bulk drug parks in the country.

Bulk Drug Park

- A bulk drug park will have a designated contiguous area of land with common infrastructure facilities for the exclusive manufacture of APIs, DIs or KSMs.
- It will also have a common waste management system.

Significance

- These parks are expected to bring down manufacturing costs of bulk drugs in the country and increase competitiveness in the domestic bulk drug industry.

Government aid

- The Centre's scheme will support three selected parks in the country by providing a one-time grant-in-aid for the creation of common infrastructure facilities.
- The grant-in-aid will be **70 per cent of the cost of the common facilities** but in the case of Himachal Pradesh and other hill states, it will be 90 per cent.
- The Centre will provide a **maximum of Rs 1,000 crore per park.**

DEEP OCEAN MISSION | GS-III SCIENCE & TECHNOLOGY

Context

- India will soon launch an ambitious 'Deep Ocean Mission'--- Ministry of Earth Sciences.

Aim

- It envisages exploration of minerals, energy and marine diversity of the underwater world, a vast part of which still remains unexplored.
- The mission proposes to explore the deep ocean similar to the space exploration started by ISRO about 35 years ago.

Aspects of the Mission

- Design, development and demonstration of human submersibles.
- Exploring the possibility of deep sea mining and developing necessary technologies.
- Technologies for ocean climate change advisory services, deep-sea mining, underwater robotics and underwater vehicles.

Products used

- To achieve its goals, key products that are being used are
  - ✓ an **offshore desalination plant** that will work with tidal energy and
  - ✓ submersible vehicle that can at least go to the depth of 6,000 metres with 3 people on board.
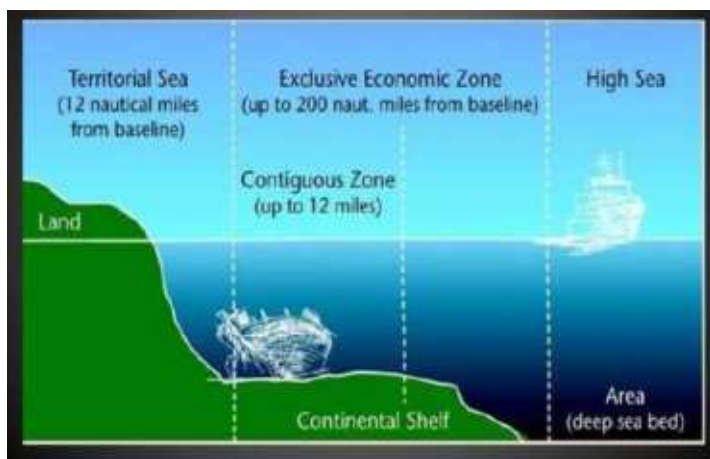
DEEP OCEAN MISSION

➤ Deep Sea Mining through 'Underwater Vehicles' and 'Underwater Robotics'

➤ Asserting exclusive rights to explore polymetallic nodules from seabed over 75,000 sq km of areas in international water

➤ Estimated polymetallic nodules resource potential: 380 million tonnes (MT)

➤ Development of ocean climate change advisory services

➤ Technology for sustainable utilisation of marine bio-resources

THESE POLYMETALLIC NODULES CONTAIN

Manganese — 92.6 MT
Nickel — 4.7
Copper — 4.3
Cobalt — 1

(*figures are rounded off)

➤ Deep ocean survey and exploration

➤ Energy from the ocean and offshore-based desalination

➤ Krill fishery from southern ocean

Significance

- 1,50,000 square kilometers in the **Central Indian Ocean Basin (CIOB)** has been allotted to India for the exploitation of polymetallic nodules (PMN) by the UN International Sea-Bed Authority.

- According to the Ministry of Earth Sciences, the estimated polymetallic nodule resource potential in this area is 380 million tonnes (MT).

- The Exclusive Economic Zone of India however lies 'unexplored and unutilized.'

- The mission will give a boost to efforts to explore India's vast Exclusive Economic Zone and Continental Shelf.

- The mission is strategically significant as it will enhance India's presence in the Indian Ocean where other players like China, Korea and Germany are active.

The International Seabed Authority (ISA) is an intergovernmental **body based in Kingston, Jamaica,** that was established to organize, regulate and control all mineral-related activities in the international seabed area beyond the limits of national jurisdiction, an area underlying most of the world's oceans. It is an organization established by the **United Nations Convention on the Law of the Sea.**

DIGGING DEEP

Potato-shaped polymetallic nodules are a source of metals such as nickel, cobalt, copper, manganese and iron

HOW WILL IT BE DONE?

1 Survey identifies areas where polymetallic nodules are present

2 Ship carrying integrated mining system (IMS) will be anchored at site

3 Soil tester will be sent down to evaluate seabed soil properties for load bearing and shear strength

4 A 12-tonne crawler will be sent to the seabed

5 Cameras on crawler send images to the ship

6 Pump sucks the nodule, transfers it to a crusher in crawler

7 Crushed granules pumped to ship through a buffer

8 Minerals segregated in ship and transported to land

WHAT WILL BE MINED?

➤ Polymetallic nodules, a rock-like **solid mass formed by accumulation of matter** within sediments at the bottom of the sea

➤ **Iron, manganese, nickel, cobalt and copper** are found in nodules

➤ India to explore polymetallic nodules in the **central Indian Ocean basin for 15 years**

➤ Estimated polymetallic nodule resource potential is **380 million tonnes** containing 4.7 million tonnes of nickel, 4.29 million tonnes of copper, 0.55million tonnes of cobalt and 92.59 million tonnes of manganese

FUTURE

➤ Mining equipment tested at 500m depth so far

➤ First stage will be conducted by 2019-end with crawler for locomotion trials and pumping system at 6,000m depth

➤ Prototype will be ready in 2022 and go through final tests

THIRTY METER TELESCOPE

Context

- 2020 Physics Nobel Laureate Prof. Andrea Ghez have worked closely with Indian astronomers on the design of Thirty Meter Telescope (TMT) project.

About

- The Thirty Meter Telescope (TMT) is a proposed extremely large in Mauna Keaon the island of Hawaii.
- "Thirty Metre" refers to the the 30-metre diameter of the mirror, with 492 segments of glass pieced together.
- This makes it **three times as wide as the world's largest existing visible-light telescope.**
- The larger the mirror, the more light a telescope can collect, which means, in turn, that it can "see" farther, fainter objects.
- It would be more than **200 times more sensitive than current telescopes,** and would be able to resolve objects 12 times better than the Hubble Space Telescope.

Uses

- Study of exoplanets,
- Whether their atmospheres contain water vapour or methane — the signatures of possible life.
- The study of black holes is another objective.
- The galaxy next to Milky Way is 100 times farther away. The Thirty Metre Telescope will help bring them galaxies closer.
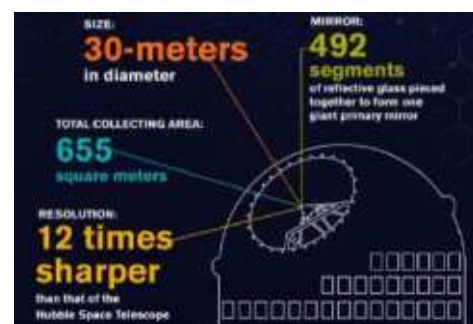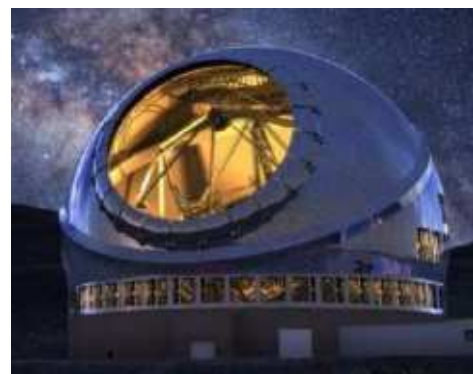
DESALINATION PLANT

Context

- Mumbai is all set to get its first desalination plant.

What are desalination plants?

- A desalination plant turns salt water into water that is fit to drink.
- The technology used for the process is reverse osmosis where an external pressure is applied to push solvents from an area of high-solute concentration to an area of low-solute concentration through a membrane.
- The microscopic pores in the membranes allow water molecules through but leave salt and most other impurities behind, releasing clean water from the other side.
- These plants are mostly set up in areas that have access to sea water.

Desalination Plants in India

- Desalination has largely been limited to affluent countries in the Middle East, United States and Australia.
- In India, Tamil Nadu has been the pioneer in using this technology, setting up two desalination plants near Chennai in 2010 and then 2013.

Concerns

- Desalination is an expensive way of generating drinking water as it requires a high amount of energy.
- The other problem is the disposal of the byproduct — highly concentrated brine — of the desalination process.
- While in most places brine is pumped back into the sea, there have been rising complaints that it ends up severely damaging the local ecology around the plan.
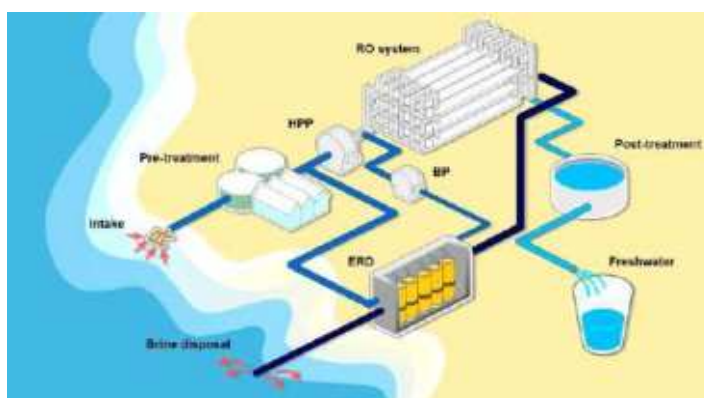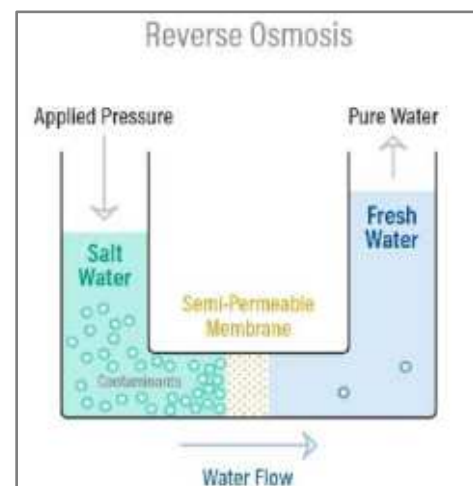
INDIGEN PROJECT

Context
- Results from the computation analysis of 1,029 sequenced genomes from India under the Indigen Project were recently released.

What is IndiGen Project?
- IndiGen project is concerned with whole genome sequencing of human representative population of India. This project was undertaken by Center for Scientific and Industrial Research (CSIR) in April 2019. Under this project 1400 blood samples were collected from all over India. This collection sample included 55 various variant populations in India. Out of these complete genome sequencing of 1008 individuals was successfully done. The project was completed in the six months.

What is whole genome sequencing?
- A genome is the DNA, or sequence of genes, in a cell.
- Most of the DNA is in the nucleus and intricately coiled into a structure called the chromosome.
- The rest is in the mitochondria, the cell's powerhouse.
- Every human cell contains a pair of chromosomes, each of which has three billion base pairs or one of four molecules that pair in precise ways.
- The order of base pairs and varying lengths of these sequences constitute the "genes", which are responsible for making amino acids, proteins and, thereby, everything that is necessary for the body to function.
- It is when these genes are altered or mutated that proteins sometimes do not function as intended, leading to disease.
- Sequencing a genome means deciphering the exact order of base pairs in an individual.
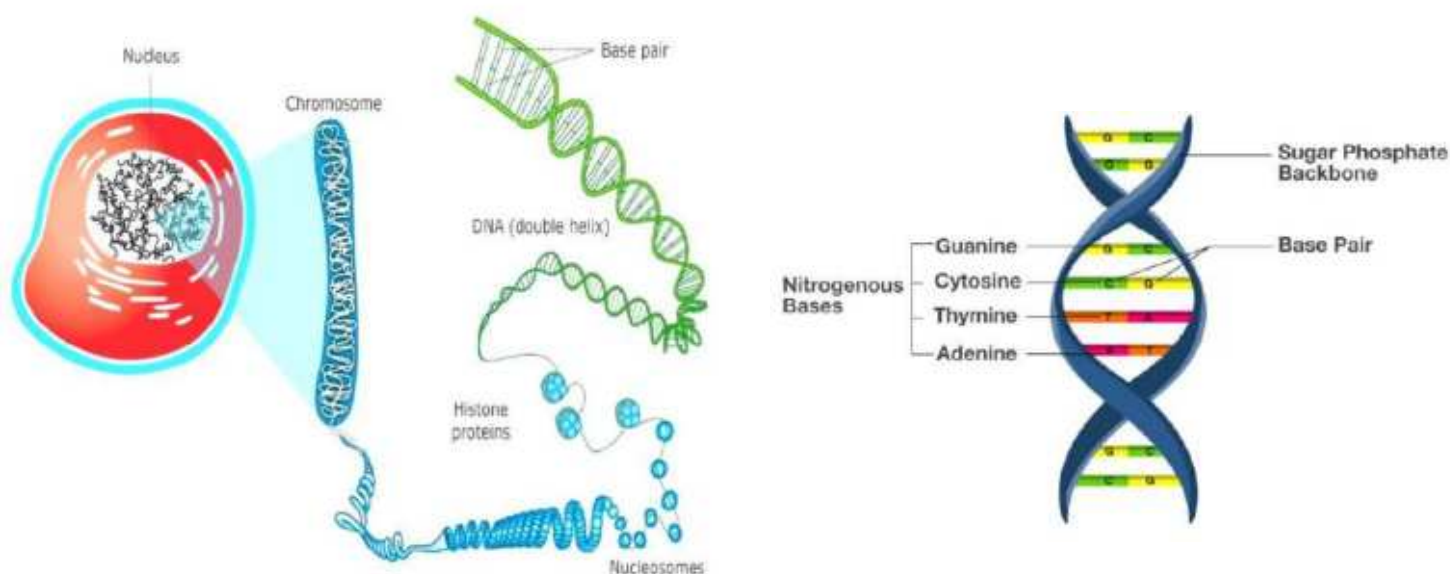
Significance of genome sequencing
- Around 70 million Indians suffer from rare genetic diseases like thalassemia and cancer. It is estimated that about 64 out of 1,000 live births in India carry a congenital birth defect.
- Yet the molecular basis of a number of diseases remains unknown.
- Thus, deciphering a person's DNA can reveal information about that person's health.
- Using this information, individuals can make informed decisions to get screened for particular mutations.
- Those found to contain genetic mutations can make necessary lifestyle changes or seek medical assistance to lead healthier lives.
- Pre-emptive action such as screening of partners before marriage or PGD (preimplantation genetic diagnosis) to pick healthy embryos can ensure the birth of healthy children.
- This data can be used to create improved diagnostics and therapeutics for targeting the disease
- Genome Sequencing is the **gold standard of precision medicine**

APPLICATIONS:

- With its study we can understand the function of a specific sequence and the sequence responsible for any disease.
- With the help of comparative DNA sequence study we can detect any mutation.
- DNA fingerprinting.
- By knowing the whole genome sequence, Human genome project get completed.
- **Forensics:-**
DNA sequencing has been applied in forensics science to identify particular individual because every individual has unique sequence of his/her DNA. It is particularly ed to identify the criminals by finding some proof from the crime scene in the form of hair, nail, skin or blood samples.

1. The whole human genome sequencing of Indian population will help to understand the genetic diversity in India.

2. Genome sequencing will revolutionize the healthcare System. It will help in predicting the risk of future diseases in persons. It will help in prescribing the precision medicine to the patients. Precision medicine or the personal medicines is a future concept of medical science in which a person will be given medicine on the basis of his /her genome. It will help in diagnosis of rare genetic diseases. Genome analysis of parents can help to predict the possibilities of disease in their future children.

- **Medicine:-**
In medical research, DNA sequencing can be used to detect the genes which are associated with some heredity or acquired diseases. Scientists use different techniques of genetic engineering like gene therapy to identify the defected genes and replace them with the healthy ones.

Challenges

- **Scale of the Project----** representative sampling of the population. The more the number of samples, the better the accuracy. Genome projects of other countries target about 1,00,000 genomes. India's target of 10,000 genomes in comparison is a good start but needs substantial expansion.
- **Consent —** While taking volunteer/patient samples, it is important to take consent for the use of any data in creating commercial products, may it be diagnostics or therapeutics.
- Burdening people with mutation information can lead them to unnecessarily make lifestyle changes.

DISADVANTAGES

- One key disadvantage of DNA analysis is the potential for invasion of individual privacy;
- Because a person's DNA reveals so much information about their physical state, it is sensitive information that must be carefully guarded;
- Information about an individual's ethnic background and parentage could become cause for discrimination;
- Disadvantages include incomplete coverage, which can lead to false normal results, and the ability to test only for unbalanced rearrangements (duplications and deletions), and not balanced translocations or inversions

Way ahead and Conclusion

- Clinicians and genetic counsellors **need to be trained to determine best medical intervention** in the context of the particular patient.
- Hence, capacity building to gather, analyse, interpret and communicate the genomic data will determine the success of this project.
- In conclusion, the IndiGen project embraces scientific technology for the advancement of Indian healthcare, ushering India towards the new gold standard of precision medicine.
- Policies that can enable the project to work optimally need to be framed to ensure its smooth and sustained functioning.

AQUAPONICS | *GS-III SCIENCE & TECHNOLOGY*

Context
- Recently, a pilot 'Aquaponics facility' has been developed by the Centre for Development of Advanced Computing Mohali.

Aquaponics
- Aquaponics is a form of agriculture that combines raising fish in tanks (recirculating aquaculture) with soilless plant culture (hydroponics).
- In aquaponics, the nutrient-rich water from raising fish provides a natural fertilizer for the plants and the plants help to purify the water for the fish.
- ✓ Hydroponics is the cultivation of plants without using soil. Hydroponic flowers, herbs, and vegetables are planted in inert growing media and supplied with nutrient-rich solutions, oxygen, and water.

About
- The state-of-the-art facility in Mohali is equipped with advanced sensors for monitoring and automated controls.
- It has been developed with the funding support from **Ministry of Electronics and Information Technology**.
- The facility is **nearly 100% organic**, need much less land for a give yield of crop, consumes 90% less water.

- The fish and plants grown are more nutritious.

Benefits of Aquaponics

- Because aquaponics recycles the water in the system, we can grow in droughts and areas with little water.
- Less pests to deal with since we are growing indoors.
- There's no weeding.
- Plants Grows Twice As Fast. Due to the naturally fortified water from the fish.
- **Water Conservation:** Aquaponics uses 90% less water than traditional farming. Water and nutrients are recycled in a closed-loop fashion which conserves water.

- **Aquaponics Protects Our Rivers & Lakes:** No harmful fertilizer run off into the water shed. In efforts to maintain nutrient rich soil, farms have to use a lot of fertilizers, those excess fertilizers eventually make it the rivers, where there are countless harmful side effects.
- **Land Conservation:** The system grows six times more per square foot than traditional farming.
- Fish have no growth hormones, no mercury, no antibiotics.
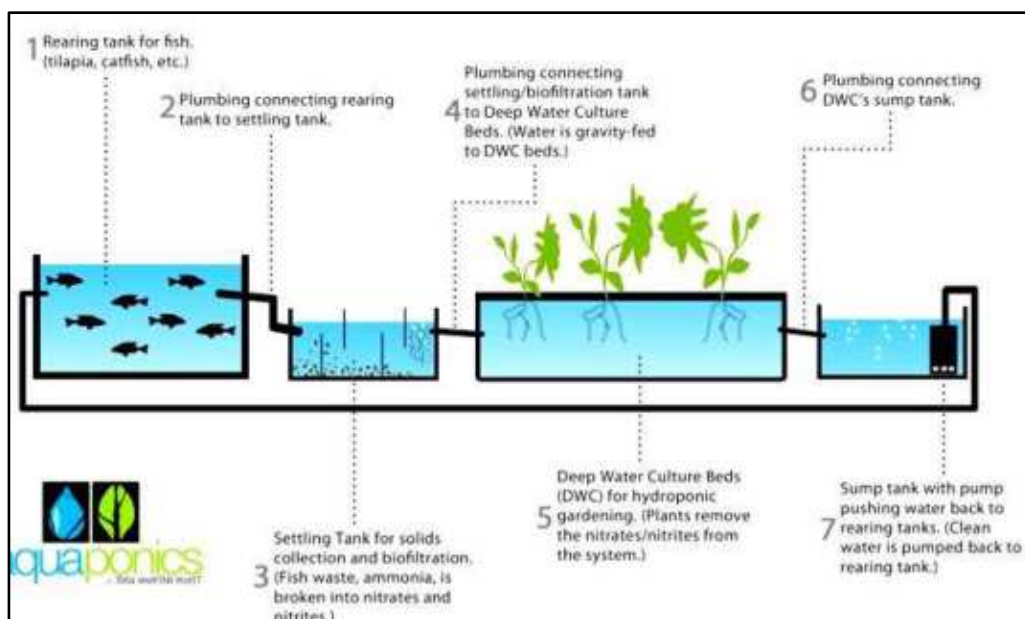
## M DWARF STAR   GS-III SCIENCE & TECHNOLOGY

Context

- Scientists have established some empirical relationships for finding the fundamental parameters of M dwarf stars that could identify them as potentially habitable.

What are M Dwarfs?

- M dwarfs or Red Dwarfs are the tiniest of the stars that have masses ranging from about 8 percent to about 50 percent of the Sun's mass.
- A red dwarf is the smallest and coolest kind of star.
- More than 70% of all stars in our Galaxy are M dwarfs dominating the stellar populations by number.
- Proxima Centauri, the nearest star to the Sun, is a red dwarf.
- While stars like the Sun have a lifetime of about 10 billion years, even the oldest red dwarf stars have not yet exhausted their internal supplies of hydrogen.

- In a nutshell, the characteristics of a red dwarf star are**: low luminosity (say, not more than one tenth that of the sun), small mass (say, not more than three quarters that of the sun) and high density (perhaps 30–100 times the density of the sun).**
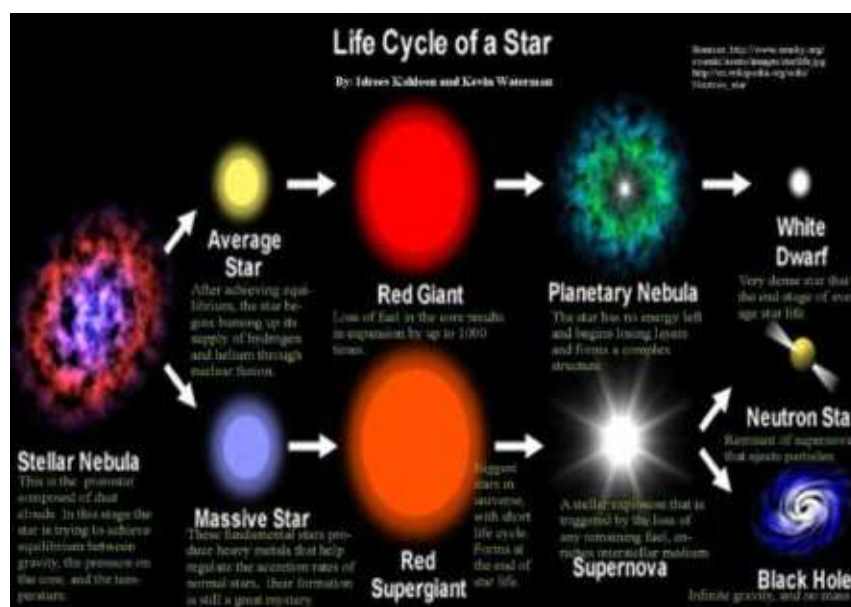
Do you know?

- Red dwarfs will not pass through a red giant phase in their evolution. Because convection occurs through the entire star, hydrogen is constantly recirculated from the outer regions to the core.
- Stars like the Sun are not completely convective and thus burn only the 10 percent of their hydrogen that is located in their cores. When that hydrogen is exhausted, such stars will expand enormously as they start to burn hydrogen on a shell surrounding their helium cores.
- Red dwarfs, however, because of convection, are completely efficient and will burn their entire supply of hydrogen. They will then become hotter and smaller, turning into blue dwarfs and finally ending their lives as white dwarfs.

Red Dwarfs and Habitable planets

- For long, scientists have considered them unlikely host of habitable planets.
- As per new evidences M dwarfs are becoming attractive hosts of potentially habitable planets due to their proximity, small size, and low mass.
- Because of its low luminosity, a red dwarf's Goldilock Zone/ habitable zone --- that is the region near a star where liquid water could be found on a planet's surface is very close to the Red Dwarf star.

SHUKRAYAAN

GS-III SCIENCE & TECHNOLOGY

Context

- The Indian Space Research Organisation (ISRO) has short-listed 20 space-based experiment proposals, including from France, for its proposed Venus orbiter mission 'Shukrayaan' to study the planet for more than four years.

Shukrayaan

- Shukrayaan-1 is a proposed orbiter to Venus by the Indian Space Research Organisation (ISRO) to study the surface and atmosphere of Venus. It will be launched by **GSLV Mk-II Rocket.**

Objectives

- Mapping the Venusian Surface at high spatial resolution of 30 to 40 m
- Understanding Cloud Dynamics
- Investigating Venusian Ionosphere
- Determiningthe structure and composition of the atmoshphere
- Determining the structure and stratigraphy of surface and sub surface features and volcanic hotspots.
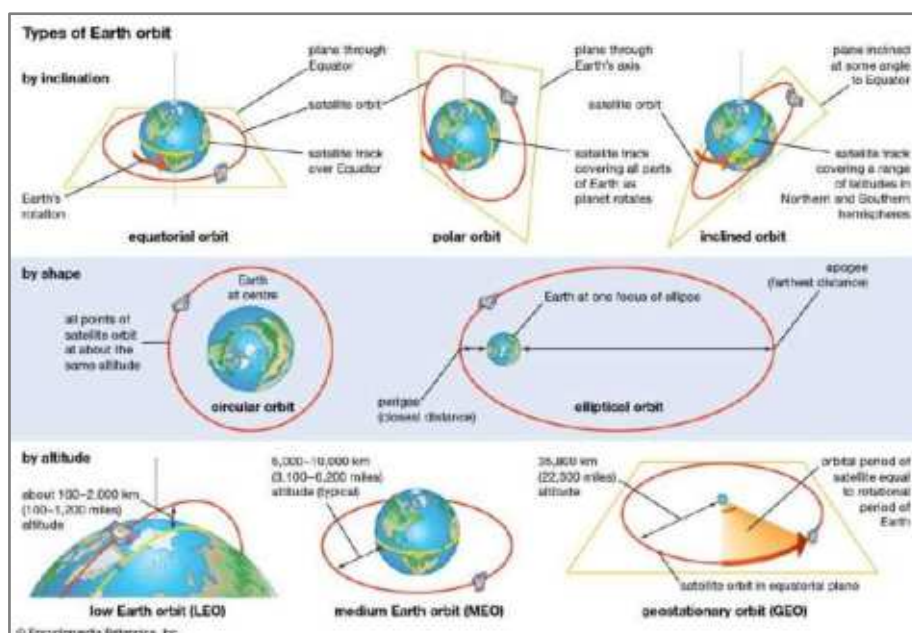
Venus ♀

Venus

Venus is the second planet from the Sun and it is the closest planet to the Earth. Due to its composition, it is classified as a terrestrial planet.

Venus is also often called Earth's "twin planet" due to their similar size, bulk composition, and gravity.

It is also the hottest planet in the Solar System, with the average temperature of 464 °C.

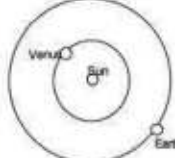## Interesting facts

Venera 7...

... was the first spacecraft to land successfully on Venus (1970)

Rotation

Venus is one of two planets that rotates clockwise, from East to West

Year vs. day

Due to the slow axis rotation, Venus's day (243 Earth days) is longer than its year (225 Earth days)

Sulfuric Acid

Because of the clouds of sufuric acid, it is not possible to see Venus's surface through optical telescopes

Venus vs. Earth

4.8676×10^{24} kg	**Mass**	5.97219×10^{24} kg
0	**Moons**	1
~ 96.5% CO_2 ~ 3.5% N_2	**Atmosphere**	78% N_2 21% O_2

! The pressure at Venus's surface is approx. **92** times higher than at Earth's surface. !

! The mean temperature on Venus is over **30** times higher than on the Earth. !

! Venus's equatorial speed is more than **250** times smaller than Earth's.

When to observe

No opposition occurs as Venus is inside the Earth's orbit

Dec 2117
The next transit of Venus across the Sun is supposed to occur in 2117. It is one of the rarest predictable celestial phenomena and occur in pairs, eight years apart. The last Venus transits occurred in 2004 and 2012. It takes place when Venus passes directly between the Sun and Earth.

Dec 2025

Dec 6 2013
Venus reaches its greatest illuminated extent while in the evening sky.

Jan 2014
Venus is seen as a "Morning Star". From then on, it can be seen in the morning sky and it rises shortly before the Sun.

DID YOU KNOW? Venus is the brightest planet and the third brightest object in the sky.

telescopeplanet

SENTINEL 6 SATELLITE

What is in news?

- Recently, The Copernicus Sentinel-6 Michael Freilich satellite, designed to monitor oceans, was launched from California aboard a SpaceX Falcon 9 rocket.
- It has been developed jointly by the European Space Agency (ESA), NASA, European Organisation for the Exploitation of Meteorological Satellites (Eumetsat), the USA's National Oceanic and Atmospheric Administration (NOAA) and the EU.

Aim

- The mission, called the **Jason Continuity of Service (Jason-CS) mission,** is designed to measure the height of the ocean, which is a key component in understanding how the Earth's climate is changing.

Significance

- The satellite will ensure the continuity of sea-level observations into the fourth decade and will provide measurements of global sea-level rise.
- It will also measure water vapour along this path and find its position using GPS and ground-based lasers.
- Further, the data it collects will support operational oceanography, by providing improved forecasts of ocean currents, wind and wave conditions.

Sentinel-6 – diving into ocean surfaces
The Copernicus satellite will carry out high-precision measurements observing ocean currents and documenting changes in sea-surface height and levels.

- This data will allow improvements in both short-term forecasting for weather predictions in the
  - ✓ two-to-four-week range (hurricane intensity predictions), and
  - ✓ long-term forecasting, for instance for seasonal conditions like El Niño and La Niña

Note: Other satellites that have been launched since 1992 to track changes in the oceans on a global scale include the TOPEX/Poseidon, Jason-1 and OSTN/Jason-2, among others.
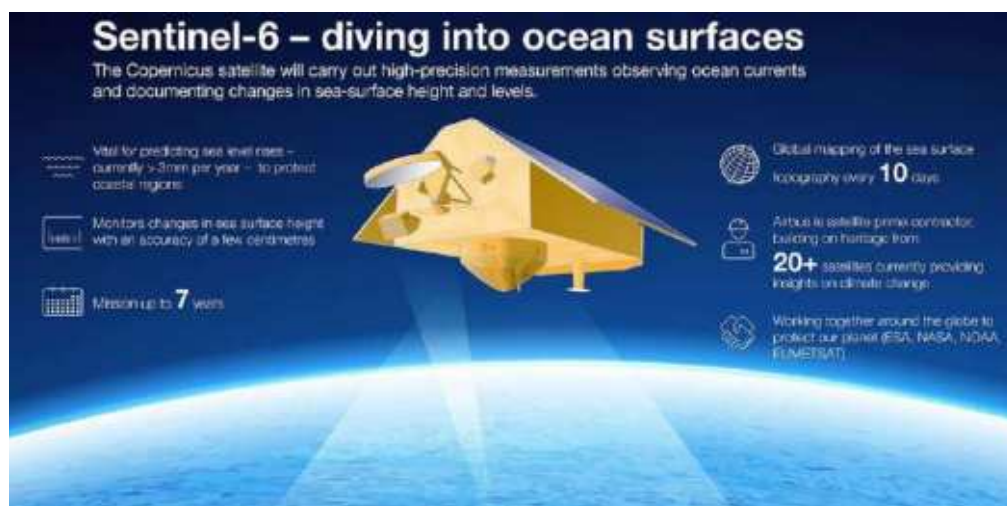
Why measure the height of the ocean?

- Data from satellites such as Sentinel-6 help scientists foresee the effects of the changing oceans on the climate.
- In order to measure and track changes in the oceanic heat budget, scientists need to know the ocean currents and heat storage of the oceans, which can be determined from the height of the sea surface.
- Observation of the height of the oceans on a global scale will help in monitoring critical changes in ocean currents and heat storage from space itself.

CHANG'E 5 LUNAR PROBE

Context

- China has successfully launched the Chang'e-5 lunar probe.

About

- The spacecraft was launched by a Long March-5 rocket.
- This is China's first sample return mission.
- The rocket, weighing over eight tons, is comprised of four parts: an orbiter, a returner, an ascender and a lander.
- The lander will collect moon samples and place them in a vessel aboard the ascender, which will dock with the orbiter and returner in orbiting the moon.

China's Chang'e-5 lunar mission

✳ Launch time
November 24, 2020 (Beijing time)

✳ Launch site
Wenchang Spacecraft Launch Site

Xichang Satellite Launch Site (Previous Chang'e missions were all launched here)

Wenchang Space Launch Site

✳ Launch Vehicle
Long March-5 Y5

✳ Landing area on the moon
Mons Rümker, a 1,300-metre-high volcanic complex in the northern region of Oceanus Procellarum on the moon's near side.

✳ Major task
Bring back to Earth **2kg** of debris and soil from the moon
(Note: Humanity hasn't returned samples from the moon since 1976.)

✳ Chang'e-5 mission will realize 5 "firsts" in China's space history

The 1st collection of samples from a celestial body

The 1st time a probe takes off from the surface of a celestial body

The 1st unmanned rendezvous and docking in lunar orbit

The 1st return to Earth with samples in escape velocity

The 1st research and analysis of moon samples

CGTN

IRNSS

Context

- The Indian Regional Navigation Satellite System (IRNSS) has been accepted as a component of the World Wide Radio Navigation System (WWRNS) for operation in the Indian Ocean Region by the International Maritime Organization (IMO).

Benefits of being WWRNS's component

- This will enable merchant vessels to use IRNSS for obtaining position information similar to GPS and GLONASS to assist in the navigation of ships in ocean waters within the area covered by 50°N latitude, 55°E longitude, 5°S latitude and 110°E longitude (approximately up to 1500 km from Indian boundary).

IRNSS

Indian Regional Navigation Satellite System

IRNSS (NavIC) is designed to provide accurate real-time positioning and timing services to users in India as well as region extending up to 1,500 km from its boundary

NAVIGATION CONSTELLATION CONSISTS OF SEVEN SATELLITES

3 in geostationary earth orbit (GEO) and

4 in geosynchronous orbit (GSO) inclined at 29 degrees to equator

Each sat has three rubidium atomic clocks, which provide accurate locational data

IT WILL PROVIDE TWO TYPES OF SERVICES

1 Standard positioning service | Meant for all users

2 Restricted service | Encrypted service provided only to authorised users (military and security agencies)

Applications of IRNSS are: Terrestrial, aerial and marine navigation; disaster management; vehicle tracking and fleet management; precise timing mapping and geodetic data capture; terrestrial navigation aid for hikers and travellers; visual and voice navigation for drivers

While **American GPS** has **24 satellites** in orbit, the number of sats visible to ground receiver is limited. In **IRNSS, four satellites** are always in geosynchronous orbits, hence always visible to a receiver in a region **1,500 km** around India

Geostationary earth orbit

Geosynchronous orbit

Navigation Systems Around The World

Navigation Systems	Country	Operator	Type	Coverage
Global Positioning System (GPS)	United States	Air Force Space Command (AFSPC)	Military, civilian	Global
GLONASS	Russia	Russian Aerospace Defense Forces, VKO	Military	Global
BeiDou Navigation Satellite System (BDS)	China	China National Space Administration (CNSA)	Military, commercial	Global Operational (regionally)
Indian Regional Navigation Satellite System, IRNSS (Operational by 2016)	India	Indian Space Research Organisation (ISRO)	Military, civilian	Regional
Galileo (In development)	European Union	GSA, ESA	Civilian, commercial	Global
Quasi-Zenith Satellite System (QZSS) (In development)	Japan	Japan Aerospace eXploration Agency (JAXA)	Civilian	Regional

AWARDS FOR TIGER CONSERVATION

GS-III ENVIRONMENT

Context

- Transboundary Manas Conservation Area or TraMCA has received the TX2 Conservation Excellence Award for 2020 for efforts to increase the big cat population.
- TraMCA comprises of the 500 sq. km. Manas National Park in Assam and the 1,057-sq. km. Royal Manas National Park in Bhutan.
- TX2 stands for "**Tigers times two**", signalling the goal to **double the population of wild tigers by 2022.**
- India and Bhutan are among 13 countries working towards TX2, a goal that the World Wildlife Fund (WWF) had set through the **Global Tiger Initiative, Global Tiger Forum** and other critical platforms.
- The number of the striped cat in the Indian Manas increased from nine in 2010 to 25 in 2018 while that in the Bhutan Manas more than doubled from 12 in 2008 to 26 in 2018.

Global Tiger Initiative (GTI)
- The Global Tiger Initiative (GTI) was launched in 2008 as a **global alliance** of governments, international organizations, civil society, the conservation and scientific communities and the private sector, with the **aim of working together to save wild tigers from extinction**.
- In 2013, the scope was broadened to **include Snow Leopards**.
- The GTI's founding partners included the World Bank, the Global Environment Facility (GEF), the Smithsonian Institution, Save the Tiger Fund, and International Tiger Coalition (representing more than 40 non-government organizations).
- The initiative is led by the 13 tiger range countries (TRCs).

Global Tiger Forum
- The Global Tiger Forum (GTF) is the **only inter- governmental international body** established with members from willing countries to embark on a global campaign to protect the Tiger.
- The GTF was formed in 1993 on recommendations from an international symposium on Tiger Conservation at New Delhi, India.
- The GTF is focused on saving the remaining 5 sub-species of Tigers distributed over 13 Tiger Range countries of the world.

TX2 Conservation Excellence Award

- TX2 is the global award, which was set up in 2010 in St. Petersburg, Russia by international organizations working for tiger conservation like UNDP, Global Tiger Forum, International Union for Conservation of Nature, World Wide Fund for Nature, Conservation Assured/Tiger Standards and the Lion's Share.
- The TX2 awards include a **financial grant to assist ongoing conservation**.
- The award recognises a site that has achieved excellence in two or more of five themes:
  - Tiger and prey population monitoring and research (tiger translocation/prey augmentation);
  - effective site management;
  - enhanced law enforcement,
  - protection and ranger welfare improvement;
  - community-based conservation,
  - benefits and human-wildlife conflict mitigation and habitat and prey management.
- From 2010 to 2016, Bhutan achieved the target with the number of tigers increasing from 10 to 22, one of the most ambitious conservation goals ever made for a single species.
- In **2018**, the **Pilibhit Tiger Reserve (PTR) in Uttar Pradesh** also won the TX2 award for doubling its population of wild tigers since 2010.
- As per the National Tiger Conservation Authority (NTCA) tiger estimation report, the PTR had 57 resident and eight transit tigers in 2018.
- This success is attributed to rigorous patrolling with constant use of Monitoring System for Tigers-Intensive Protection and Ecological Status (M-STrIPE), stringent action against wildlife criminals and poachers and forest and grassland management.

National Tiger Conservation Authority (NTCA)

- The NTCA has been constituted under the **Wildlife (Protection) Act, 1972.**
- It consists of the **Minister in charge of the Ministry of Environment and Forests (as Chairperson)**, the Minister of State in the Ministry of Environment and Forests (as Vice-Chairperson), three members of Parliament, Secretary, Ministry of Environment and Forests and other members.
- It was constituted for management of **Project Tiger** and the many Tiger Reserves in India.

Pilibhit Tiger Reserve

- The Pilibhit Tiger Reserve is situated in Uttar Pradesh, forming part of the Terai Arc Landscape.
- It lies along the India-Nepal border in the foothills of the Himalayas and the plains of the Terai in Uttar Pradesh.
- The northeastern boundary of the reserve is the River Sharda, which defines the Indo-Nepal border, while the southwest boundary is marked by the River Sharda and the River Ghaghara.

- This reserve is one of the finest examples of the highly diversified and productive Terai-Duar savanna and grasslands eco-system.

ANAKKAYAM SMALL HYDRO ELECTRIC PROJECT / **GS-III ENVIRONMENT**

Context

- The Kerala State Electricity Board has started clearing about eight hectares of forest with 625 old-growth trees for the Anakkayam Small Hydro Power Project.
- The Anakkayam Small Hydro Electric Project is a tailrace development project that aims to harness electricity from the water flowing out of the existing Sholayar hydro project.
- It witnessed a series of notable community-led agitations against hydropower dams.
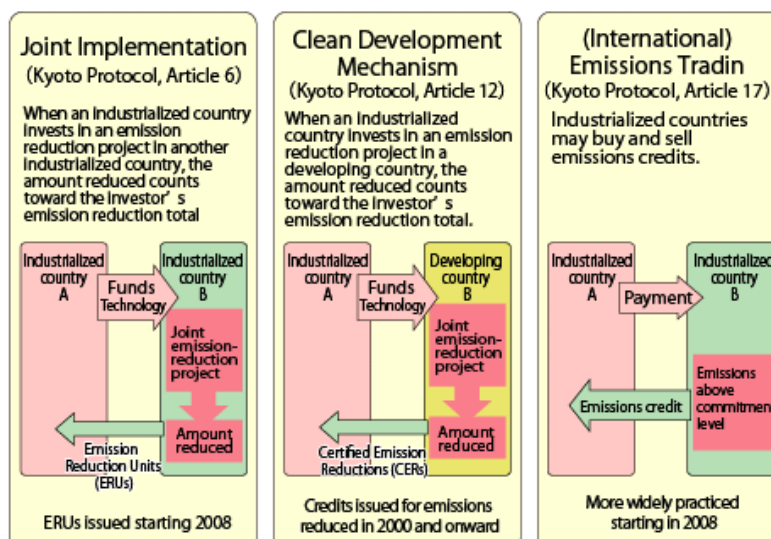
Why it is facing protest?

- The Anakkayam hydro project, conceived in the buffer area of the **Parambikulam Tiger Reserve**, would require blasting for the construction of a five-km long tunnel.
  o The Vazhachal Forest Division is the only known home of the Athirapilly night frog and Cochin forest cane turtle (classified as "Endangered" as per the International Union for Conservation of Nature Red List).
- It expected to **submerge and divert a vast expanse of unique lowland evergreen forests** with high endemism of mammals, birds, reptiles, amphibians for reservoirs, construction of dams and the tunnel.
- It was **conceived without consent from the Kadars**, who are the original inhabitants of these forests and also hold Community Forest Resource Use rights over these areas.

Kadars

- **Kadars** are one of the five **particularly vulnerable tribal groups** in Kerala.
- Following the enactment of The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 or FRA, Kadars have claimed their **community rights (CR) and community forest resources (CFR) rights** over the forest area that they have been accessing and using traditionally.
- The Kadars are **entirely dependent on collection of non-timber forest produce and river resources** for their sustenance.
- Having seen displacement in the past, Kadars saw FRA implementation as an opportunity to get tenurial security over their traditional resource use area.
- Using the provisions of Section 5 of the FRA, which gives the Gram Sabha and right holders responsibilities for conserving their areas, the Gram Sabhas of the settlements passed a resolution against the proposed Athirappally HEP and submitted it to the High Court of Kerala.

- The project is being implemented as a **Clean Development Mechanism** under the United Nations Framework Convention on Climate Change.
- A Clean Development Mechanism, as per **Article 12 of the Kyoto Protocol** (which India is a signatory to), can earn a country **certified emission reduction credits** in recognition of the clean, green energy it produces or utilises.

The Kyoto Protocol's flexible mechanisms for fulfilling emission reductions commitments

Joint Implementation (Kyoto Protocol, Article 6)
When an industrialized country invests in an emission reduction project in another industrialized country, the amount reduced counts toward the investor's emission reduction total

Clean Development Mechanism (Kyoto Protocol, Article 12)
When an industrialized country invests in an emission reduction project in a developing country, the amount reduced counts toward the investor's emission reduction total.

(International) Emissions Trading (Kyoto Protocol, Article 17)
Industrialized countries may buy and sell emissions credits.

> **Parambikulam Tiger Reserve**
> * It is one of the premier Tiger Reserves of India.
> * It stood 7th in the country in terms of Management Effectiveness in the 2018 Assessment.
> * Parambikulam was declared a Tiger Reserve during 2010.
> * It is a well-protected ecological part of the Nelliampathy - Anamalai sub unit of the Western Ghats.
> * Unique habitats like montane grasslands and **marshy grasslands (locally known as 'vayals')** are extensively found in the Tiger Reserve.

VULTURE ACTION PLAN

GS-III ENVIRONMENT

Context

Union Minister for Environment, Forests and Climate Change launched a Vulture Action Plan 2020-25 for the conservation of vultures in the country.

* There are nine recorded species of vultures in India — the **Oriental white-backed, long-billed, slender-billed, Himalayan, red-headed, Egyptian, bearded, cinereous and the Eurasian Griffon**.

Why it was needed?

* Between the 1990s and 2007, numbers of three presently **critically-endangered species** – the Oriental white-backed, long-billed and slender-billed vultures — **crashed massively with 99 per cent of the species having been wiped out.**
* The number of **red-headed vultures**, also critically-endangered now, declined by 91% while the Egyptian vultures by 80%.
* The **Egyptian vulture** is listed as '**endangered**' while the **Himalayan, bearded and cinereous vultures are 'near threatened'.**
* The crash in vulture populations was caused by the **diclofenac** — a **veterinary nonsteroidal anti-inflammatory drug (NSAID)** used to treat pain and inflammatory diseases such as gout — in carcasses that vultures would feed off.

BIRD'S EYE VIEW

9 RECORDED SPECIES:
Oriental white-backed, long-billed, slender-billed, Himalayan, red-headed, Egyptian, bearded, cinereous and the Eurasian Griffon.

(4 CRITICALLY ENDANGERED, 1 ENDANGERED, 3 NEAR THREATENED)

THE CRISIS:
A massive dip in vulture populations came into limelight in the mid-90s, and in 2004 the cause of the crash was established as diclofenac, a veterinary nonsteroidal anti-inflammatory drug.

WHAT NEXT AFTER 2006 PROJECT:
* Testing of nonsteroidal anti-inflammatory drugs on vultures, development of new NSAIDs
* Covering two more species in the breeding programme that earlier focussed on 3 critically endangered species
* Additional conservation breeding centres and four rescue centres planned across India
* Nationwide vulture survey once in four years

Conservation efforts

* The MoEFCC released the **Action Plan for Vulture Conservation 2006** with banning the veterinary use of diclofenac in the same year and the decline of the vulture population being arrested by 2011.
* Government is planning to extend the project to 2025 to halt the decline in vulture numbers in India.

Vulture Safe Zone programme

* It is being implemented at eight different places in the country where there were extant populations of vultures, including two in Uttar Pradesh.
* An area is declared a Vulture Safe Zone only when no toxic drugs are found in undercover pharmacy and cattle carcass surveys, for **two consecutive years,** and the vulture populations are stable and not declining.

Vulture Conservation Breeding Programme

* The **Central Zoo Authority (CZA) and Bombay Natural History Society (BNHS)** established the Vulture Conservation Breeding Programme, which has been successful and had three critically-endangered species bred in captivity for the first time.

SURVEY SOON
* As a first step towards implementing a coordinated vulture conservation action plan, a survey will be conducted in four south Indian states, tentatively from March 15 to 17
* This is expected to help understand population dynamics of vultures in the habitats across south India, including Wayanad- Mudumalai-Bandipur landscape
* A series of initiatives like genetic studies on population estimation and radio tagging of vultures will be implemented

Red-headed vulture, a critically endangered bird species, at the Wayanad Wildlife Sanctuary

- Eight centres have been established and, so far, 396 vultures of the three species have successfully fledged.
- The ministry has now launched conservation plans for the red-headed and Egyptian vultures, with breeding programmes for both.
- The action plan aims to ensure that sale of veterinary NSAIDs is regulated and livestock are treated only by qualified veterinarians.
- Additional **Conservation Breeding Centres** are also being planned across the country, along with **Vulture Conservation Centres** with samples and information collected from the wild analysed and stored at these centres — one each in Uttar Pradesh, Tripura, Maharashtra, Karnataka and Tamil Nadu.
- Four **rescue centres** have been proposed for different geographical areas like <u>Pinjore in the north, Bhopal in central India, Guwahati in Northeast and Hyderabad in South India</u>.

PANNA BIOSPHERE RESERVE   *GS-III ENVIRONMENT*

Context
- Panna Tiger Reserve (PTR) in Madhya Pradesh (MP) included in the global network of biosphere reserves by the United Nations Educational, Scientific and Cultural Organisation (UNESCO).
- The UNESCO's recognition cited PTR as a critical tiger habitat.
- PTR was notified as a biosphere reserve by the Union Ministry of Environment, Forest and Climate Change (MoEFCC) in 2011 and after nine years the UNESCO included it in the **Man and Biosphere programme.**
- In 2008, PTR had lost all its tigers. The forest department had reintroduced a male and a female tiger in 2009 and within a decade the animal's population increased to over 50.

UNESCO's Man and Biosphere (MAB) programme
- It is an **intergovernmental scientific programme** that aims to **establish a scientific basis for enhancing the relationship between people and their environments**.
- It combines the natural and social sciences with a view to improving human livelihoods and safeguarding natural and managed ecosystems, thus promoting innovative approaches to economic development that are socially and culturally appropriate and environmentally sustainable.
- By focusing on sites internationally recognized within the World Network of Biosphere Reserves, the MAB Programme strives to:
  - **identify and assess the changes in the biosphere** resulting from human and natural activities and the effects of these changes on humans and the environment, in particular in the context of climate change;
  - study and compare the dynamic interrelationships between natural/near-natural ecosystems and socio-economic processes, in particular in the context of accelerated loss of biological and cultural diversity with unexpected consequences that impact the ability of ecosystems to continue to provide services critical for human well-being;
  - ensure basic human welfare and a liveable environment in the context of rapid urbanization and energy consumption as drivers of environmental change;
  - **promote the exchange and transfer of knowledge** on environmental problems and solutions, and to foster environmental education for sustainable development.

Panna Tiger Reserve
- Situated in the **Vindhyan mountain range** in the northern part of **Madhya Pradesh**, Panna Tiger Reserve is spread over the Panna and Chhatarpur districts.
- Flowing from the south to the north through the reserve is the **River Ken**. It is the lifeline of this reserve and is the least polluted of Yamuna's tributaries.
- These forests along with Ken Gharial Sanctuary form a significant part of the catchment area of this river.
- The reserve is also dotted with **two thousand year-old rock paintings.**

United Nations Educational, Scientific and Cultural Organization (UNESCO)
- It is a **specialised agency of the United Nations** (UN) aimed at **promoting world peace and security through international cooperation in education, the sciences, and culture.**

What are Biosphere Reserves?
- Biosphere reserves or natural reserves are **multipurpose protected areas with boundaries circumscribed by legislation.**
- The main aim of biosphere reserve is **to preserve genetic diversity in representative ecosystems by protecting wild animals, traditional life style of inhabitant and domesticated plant/animal genetic resources.**
- These are scientifically managed allowing only the tourists to visit.
- The **concept** of Biosphere Reserves was launched in 1975 as a, **part of UNESCO's 'Man and Biosphere Programme**, dealing with the conservation of ecosystems and the genetic resources contained therein.
- A terrestrial biosphere reserve consists of **core, buffer and transition zones**.

- o The natural or **core zone** comprises an **undisturbed and legally protected ecosystem**.
- o The **buffer zone** surrounds the core area, and is managed to accommodate a greater variety of resource use strategies, and research and educational activities.
- o The **transition zone** is the **outermost part** of the Biosphere Reserve. This is an area of active cooperation between reserve management and the local people, wherein activities including settlements, cropping, forestry, recreation and other economic uses continue in harmony with people and conservation goals.
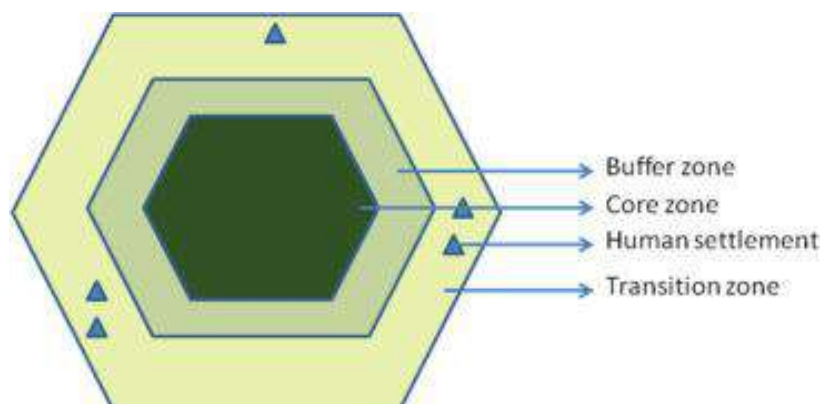
Ecological importance's of biosphere reserves are as follows:

- These help in the **restoration of degraded ecosystem**.
- The main role of these reserves is **to preserve genetic resources, species, ecosystems, and habitats without disturbing the habitants.**
- These maintain cultural, social and ecologically sustainable economic developments.
- These **support education and research** in various ecological aspects.

IMAC

GS-III SECURITY

Context

- The Navy's Information Management and Analysis Centre (IMAC), the **nodal agency for maritime data fusion** set up after the 26/11 Mumbai terror attacks, will soon become a National Maritime Domain Awareness (NDMA) centre.

Information Management and Analysis Centre (IMAC)

- It became operational in 2014 at a cost of ₹450 crore and is located in Gurugram.

- It is the **nodal centre of the National Command Control Communication and Intelligence System (NC3I),** which was established **to link** the operational Centres, Navy and the Coast Guard across the country's coastline, including the island territories.

- It **tracks vessels on the high seas** and gets data from the coastal radars, white shipping agreements, Automatic

NATIONAL COMMAND CONTROL COMMUNICATION INTELLIGENCE NETWORK

- Conceived after 26/11, network interlinks 20 Navy & 31 Coast Guard stations, joint op centres & headquarters
- Project cost ₹453cr
- Analyses data from radars, space & terrestrial AIS, VTMS and world ship registry
- Tracks all ships, even those in South China Sea
- Central hub to be inaugurated in Gurgaon on Sunday

Identification Systems (AIS) transponders fitted on merchant ships, air and traffic management system and global shipping databases.

- All fishing vessels **more than 20m long are mandated to have AIS transponders** installed.
- At any point of time there are around 11,000-12,000 vessels present in the Indian Ocean Region (IOR) as of now, which shows the magnitude of the challenge in tracking vessels.
- The **Information Fusion Centre – Indian Ocean region (IFC–IOR),** was set up in the IMAC in 2018, as a regional information coordination body,that coordinates with 21 partner countries and 22 multi-national agencies.
- IMAC **tracks only non-military shipping**, whereas the Directorate of Naval Operations tracks military vessels on another classified network.

SIMBEX

GS-III SECURITY

Context

- Indian Navy is scheduled to host the 27th edition of India - Singapore Bilateral Maritime Exercise SIMBEX-20 from today in Andaman Sea.

About SIMBEX

- Singapore India Maritime Bilateral Exercise (SIMBEX) is an **annual bilateral naval exercise** conducted by the Indian Navy and the Republic of Singapore Navy (RSN).
- The exercise has been held annually since 1994.
- **Aim**: Enhancing mutual inter-operability and imbibing best practices from each other.
- The scope and complexity of these exercises has increased steadily over the past two decades to include advanced naval drills covering a wide spectrum of maritime operations.
- The exercise, being conducted as a 'non-contact, at sea only' exercise in view of COVID-19 pandemic.
- It highlights high degree of **mutual trust and confidence, synergy and cooperation** in the maritime domain between the two friendly navies and maritime neighbours.
- It exemplify **high level of coordination and convergence of views** between India and Singapore, particularly in the maritime domain, towards enhancing the overall maritime security in the region and commitment to a **rules-based international order**.

| MICROWAVE WEAPONS | | GS-III SECURITY |

Context

- A Chinese professor claimed that the Chinese army had used "microwave weapons" to drive Indian soldiers away from their positions in eastern Ladakh.

What are 'microwave weapons'?

- They are a **type of direct energy weapons**, which aim **highly focused energy** in the form of sonic, laser, or microwaves, at a target.
- A directed-energy weapon (DEW) is a ranged weapon that damages its target with highly focused energy, including laser, microwaves, and particle beams.
- DEWs are of two types – high-energy lasers and high power microwaves.
- Both laser and microwave-based DEWs can be lethal or non-lethal.
- While they both comprise radio waves and light waves, lasers have shorter wavelength and higher frequency while microwaves have longer wavelength and low frequency.
- Potential applications of this technology include weapons that target personnel, missiles, vehicles, and optical devices.

How does it work?

- These weapons are based on the principle that microwave radiation of a certain kind can cause a buzzing sensation in the head, due to a phenomenon known as the **thermoelastic effect.**
- Such a weaponized microwave beam may cause a very slight expansion of the brain and produce a sound-like pressure, which strictly speaking is not really sound but can be traumatic.
- It uses "beams of high-frequency electromagnetic radiation to heat the water in a human target's skin, causing pain and discomfort".

HOW DO MICROWAVE WEAPONS WORK?

The 'Active Denial System' deters attackers by sending a non-lethal millimeter-wave of electromagnetic energy, causing a burning sensation.

- In serious battle-ground situations, laser weapons can knock off rockets and missiles at the speed of light, while microwave-based weapons can use an electromagnetic explosion to take out the entire communication network of the enemy and destroy its electronic equipment.

Which countries have these 'microwave weapons'?

- A number of countries are thought to have developed these weapons to target both humans and electronic systems.
- **China** had first put on display its "microwave weapon", called Poly WB-1, at an air show in 2014.
- The **United States** has developed a prototype microwave-style weapon, the "Active Denial System" which is first non-lethal, directed-energy, counter-personnel system with an extended range greater than currently fielded non-lethal weapons".
- The **USSR** is believed to have used microwave weapons against US diplomats for the first time in the 1970s.
- India's DRDO has developed two anti-drone DEW systems, and plans are afoot to invest in DEW tech in a big way.

| INS VAGIR | | GS-III SECURITY |

Context

- Indian Navy's fifth Kalvari-class Diesel Electric attack submarine INS Vagir was launched at Mazgaon Dock in Mumbai.
- This modern and stealthy class of submarines having been built under **Project 75** and whose design is based on the Scorpene class of the submarines.

What is project 75?

STRATEGIC PARTNERSHIP

Depleting underwater strength

➤ India requires 18 diesel-electric subs, 6 nuclear-powered attack subs (SSNs) & 4 nuclear-powered subs with nuclear-tipped missiles (SSBNs)

➤ But has only 2 new Scorpene & 13 old conventional subs. Also 1 SSBN (INS Arihant) & 1 SSN (INS Chakra)

➤ 4 more Scorpene subs, being built at MDL under ₹ 23,652 crore Project-75, to be delivered by 2021-22

➤ 3 more SSBNs, after INS Arihant, being built at Vizag for ₹ 90,000 crore

➤ India to get 2nd SSN on 10-year lease from Russia under $1.5 billion deal. First one, INS Chakra, came in 2012 for $990 million

Project-75-India

➤ Project for 6 stealth diesel-electric submarines for around ₹ 50,000 crore first got 'acceptance of necessity' in Nov 2007

➤ Govt promulgated strategic partnership model in May 2017

➤ 2 Indian shipyards (L&T and MDL) & 5 foreign companies (Russian Rubin Design Bureau, French Naval Group-DCNS, German ThyssenKrupp Marine Systems, Spanish Navantia & South Korean Daewoo) now shortlisted

➤ Will take around 2 years for contract to be inked

➤ Will thereafter take 7 to 8 years for the first submarine to roll out

Kalvari-class background

- Indian Naval Ship (INS) Vagir, is the fifth among the six Kalvari-class submarines.
- The other vessels in the class are INS Kalvari, INS Khanderi, INS Karanj, INS Vela and INS Vagsheer.
- Of these Kalvari and Khanderi have been commissioned in 2017 and 2019, Vela and Karanj and undergoing sea trials, Vagir has now been launched and Vagsheer is under construction.

Technical details

- It is being built by the Mazagon Docks Limited (MDL) with **technology transfer from France**.
- The design of Kalvari class of submarines is based on Scorpene class of submarines designed and developed by French defence major Naval Group formerly DCNS and Spanish state owned entity Navantia.
- This class of submarines have **Diesel Electric transmission systems** and these are primarily attack submarines or 'hunter-killer' type which means they are **designed to target and sink adversary naval vessels.**
- They have capability of operating in a wide range of Naval combat including anti-warship and anti-submarine operations, intelligence gathering and surveillance and naval mine laying.
- The Scorpene class of submarines have the **Air Independent Propulsion (AIP)** which enables non-nuclear submarines to operate for a long time without access to surface oxygen.
- They are capable of launching various types of torpedoes and missiles and are equipped with a range of surveillance and intelligence gathering mechanisms.

Strategic importance

- India's currently operating submarines are ageing.
- As per the basic principles of submarine deployment and minimum requirement for India to create a strategic deterrence, there is a specific number of submarines that India needs to have in active service.

WHY INS KALVARI MATTERS TO INDIAN NAVY

DESIGN AND BUILT

- Named after the dreaded tiger shark, a deadly deep sea predator of the Indian Ocean.
- Designed by French naval defence and energy company DCNS
- First of six Scorpene-class subs
- Built by Mazgon Dock Ltd, Mumbai, as part of Navy's Project 75 with French Collaboration

SPECIALITIES

- Has a range of over **12000 kms** when surfaced and over **1000 Kms** when totally submerged
- Equipped with Air Independent Propulsion; can remain underwater undetected for more time
- Can carry **18** heavyweight torpedoes; **18** Exocet Anti-Ship Missile to destroy any enemy ship within a range of **180 Km**
- Designed with a special steel alloy; helps reduce its weight and enhance its stress bearing capabilities
- Two layers of steel make it absolute safe from enemy attacks

ENHANCED PINAKA ROCKET

Context

- India successfully flight-tested the enhanced version of Pinaka multi-barrel rocket system (MRLS).

Enhanced Pinaka Rocket

- It is **indigenously developed** by the **Defence Research and Development Organisation** (DRDO)
- The enhanced Pinaka along with guidance Pinaka will cover the range between **60 to 90 kilometres.**
- It would replace the existing Pinaka Mk-1 rockets, which had a range of 36 km.
- It will be deployed by the Indian Army.
- The enhanced Pinaka has been developed to counter the People's Liberation Army threat in East Ladakh with the Chinese deploying large number of rocket regiments in support of artillery guns.
- The enhanced Pinaka and guided Pinaka have both been cleared for deployment on the borders.

Pinaka Rocket

- The Pinaka, a **multi-barrel rocket-launcher (MBRL) system** named after Shiva's bow, can fire a salvo of 12 rockets over a period of 44 seconds.
- The development of the Pinaka multi-barrel rocket systems was started by the DRDO in the late 1980s, as an alternative to the Multi Barrel Rocket Launcher systems of Russian make called like the 'Grad'.
- The navigation system of Guided Pinaka missile is also aided by the **Indian Regional Navigation Satellite System (IRNSS).**

IRNSS

IRNSS

Indian Regional Navigation Satellite System

IRNSS (NavIC) is designed to provide accurate real-time positioning and timing services to users in India as well as region extending up to 1,500 km from its boundary

NAVIGATION CONSTELLATION CONSISTS OF SEVEN SATELLITES

3 in geostationary earth orbit (GEO) and

4 in geosynchronous orbit (GSO) inclined at 29 degrees to equator

Each sat has three rubidium atomic clocks, which provide accurate locational data

IT WILL PROVIDE TWO TYPES OF SERVICES

1 **Standard positioning service** | Meant for all users

2 **Restricted service** | Encrypted service provided only to authorised users (military and security agencies)

Applications of IRNSS are: Terrestrial, aerial and marine navigation; disaster management; vehicle tracking and fleet management; precise timing mapping and geodetic data capture; terrestrial navigation aid for hikers and travellers; visual and voice navigation for drivers

While **American GPS** has **24 satellites** in orbit, the number of sats visible to ground receiver is limited. In **IRNSS, four satellites** are always in geosynchronous orbits, hence always visible to a receiver in a region **1,500 km** around India

Geostationary earth orbit

Geosynchronous orbit

MISSION SAGAR II

Context

- As part of 'Mission Sagar-II', Indian Naval Ship Airavat entered Port Sudan.
- As part of Mission Sagar-II, Indian Naval Ship Airavat will **deliver food aid to Sudan, South Sudan, Djibouti and Eritrea.**
- Under **Mission Sagar**, Government of India is **providing assistance to Friendly Foreign Countries to overcome natural calamities** and COVID-19 pandemic.
- Mission Sagar-II, follows the first 'Mission Sagar' undertaken in May-June 2020, wherein India reached out to Maldives, Mauritius, Seychelles, Madagascar and Comoros, and provided food aid and medicines.
- Mission Sagar-II, is in line with **Security and Growth for All in the Region 'SAGAR**' and highlights the importance accorded by India to relations with her maritime neighbours.
  - Security and Growth for All in the Region (SAGAR) is **India's policy or doctrine of maritime cooperation in the Indian Ocean region.**
- The Indian Navy is progressing this mission in close coordination with the Ministries of Defence and External Affairs, and other agencies of the Government of India.

SEA GUARDIAN DRONES FROM US

Context

- The Indian Navy has inducted two **MQ-9B Sea Guardian unarmed drones** procured from the **U.S.** on lease.

Other details

- The drones are on lease for one year.
- All planning, execution and operations will be with the Indian Navy.
- The **Defence Acquisition Procedure (DAP) 2020** has introduced an option for **leasing military platforms.**

About Sea Guardian

- It is the maritime variant of the Predator MQ-9 Unmanned Aerial Vehicle (UAV), has a maximum endurance of 40 hours and a maximum flying altitude of 40,000 feet.
- It has a 3600 maritime surveillance radar and an optional multimode maritime surface search radar.
- The drone can "perform over-the-horizon long-endurance, medium-altitude Intelligence, Surveillance and Reconnaissance (ISR) missions."

What are drones?

- The DGCA has defined remotely piloted aircraft (RPA) as an unmanned aircraft piloted from a remote pilot station.
- As per the civil aviation requirements – issued under the provisions of Rule 15A and Rule 133A of the Aircraft Rules, 1937 – these RPAs need a **Unique Identification Number (UIN), Unmanned Aircraft Operator Permit (UAOP)** and need to adhere to other operational requirements.

Types of drones

- The DGCA has segregated drones into five different categories
  - **Nano:** Less than or equal to 250 grams.
  - **Micro**: From 250 grams to 2kg.
  - **Small:** From 2kg to 25kg.
  - **Medium:** From 25kg to 150kg.
  - **Large**: Greater than 150kg.
- All drones, other than in the nano category, shall apply to DGCA for import clearance and based on that Directorate General of Foreign Trade shall issue license for import of RPAS.

How can drones be operated in India?

- The basic operating procedure restrict drone flights to the daytime only and that too within "Visual Line of Sight (VLOS)". This applies to all categories.

- No remote pilot can operate more than one RPA at any time.
- It cannot in any manner cause danger to people or property.
- An insurance is mandatory to cover third-party damage.

What are the restrictions in place for drones in India?

- RPAs cannot be flown within 5km of the perimeters of the airports in Mumbai, Delhi, Chennai, Kolkata, Bengaluru and Hyderabad and within 3km from the perimeter of any other airport.
- It cannot fly within "permanent or temporary Prohibited, Restricted and Danger Areas" and within 25km from international border which includes the Line of Control (LoC), Line of Actual Control (LAC) and Actual Ground Position Line (AGPL).
- It cannot fly beyond 500 m into sea from the coast line and within 3 km from perimeter of military installations.
- It also cannot be operated from a mobile platform such as a moving vehicle, ship or aircraft.
- Eco-sensitive zones around National Parks and Wildlife Sanctuaries are off-limits without prior permission.
- Violations will be acted on under relevant sections of the IPC and the Aircraft Act 1934.

STEALTH OPERATIONS

Military UAVs
- Conduct real-time reconnaissance with sensors & cameras
- Direct precision fire at enemy targets
- Cost-effective & no risk of aircrew being killed
- UCAVs (unmanned combat aerial vehicles) fire missiles on enemy targets before returning to re-arm for further missions

India's Drone Fleet
- Over 180 major UAVs (majority of Israeli-origin), plus mini-drones
- Israeli Heron & Searcher-II drones for long-range surveillance & precision-targeting
- Israeli Harop "killer" or Kamikaze drones act as cruise missiles by exploding into targets & radars

Future Plans
- Armed Forces want over 400 major drones, including combat & submarine-launched remotely piloted aircraft
- Army also looking 75 high-altitude small remotely piloted aircraft
- systems (RPAS) after Doklam, apart from earlier case for 598 mini UAVs
- India plans to induct 10 missile-armed **Heron-TP** drones from Israel & 22 armed **Predator-B** or weaponized **Sea Guardian** drones from the US

DRDO Projects | Rustom-II medium-altitude, long-endurance drones (Rs 1,650 crore project approved in Feb 2011) & new **Ghatak UCAVs** (Initial Rs 231 crore approved in May 2016 for Rs 2,650 crore project)

LAND ATTACK VERSION OF BRAHMOS MISSILE

GS-III   SECURITY

Context

The land-attack version of the missile was test-fired in the Andaman and Nicobar

About BrahMos

- The BrahMos (designated PJ-10) is a medium-range **ramjet supersonic cruise missile** that can be launched from submarine, ships, aircraft, or land.
- It is a joint venture between the Russian Federation's NPO Mashinostroyeniya and India's Defence Research and Development Organisation (DRDO), who together have formed BrahMos Aerospace.
- It is the **world's fastest anti-ship cruise missile** in operation.
- The land-launched and ship-launched versions are already in service.
- In 2016, as India became a member of the **Missile Technology Control Regime** (MTCR), India and Russia are now planning to jointly develop a new generation of Brahmos missiles with 600 km-plus range and an ability to hit protected targets with pinpoint accuracy.
- In 2019, India upgraded the missile with a new range of 500 km.

INDIA COMPLETES MISSILE TRIAD

Air variant of BrahMos missile test-fired from a Sukhoi-30MKI fighter jet to hit a sea-based target in the Bay of Bengal. A snapshot:

Strike range
290 km

Speed
Mach 2.8
2.8 times the speed of sound

Weight
2.5 tonnes
Air Force variant

Can be launched from
Air
A missile is carried at the belly of the aircraft
Land
Sea/water
3 TONNES: Weight of Navy and Army variants
"Such a capability can be a game changer for any air force in the world"
SUDHIR MISHRA, CEO, BrahMos Aerospace

■ The missile launch   PTI

Boosting India's aerial prowess
- It is the world's fastest supersonic cruise missile, from land, sea and air, completing the country's tactical cruise missile triad
- It is the heaviest weapon to be deployed on India's Su-30
- The reach of Sukhoi-30 jets and Brahmos' accuracy gives India a dominant position

Missile Technology Control Regime (MTCR)
- It is a multilateral export control regime.
- It is an **informal political understanding** among 35 member states that seek to limit the proliferation of missiles and missile technology.
- The regime was formed in 1987 by the **G-7** industrialized countries.
- It was created in order to curb the spread of unmanned delivery systems for nuclear weapons, specifically delivery systems that could carry a payload of **500 kg for a distance of 300 km.**
- It seeks to limit the risks of proliferation of weapons of mass destruction (WMD) by controlling exports of goods and technologies that could make a contribution to delivery systems (other than manned aircraft) for such weapons.
- The MTCR is not a treaty and **does not impose any legally binding obligations** on Partners (members).
- Rather, it is an informal political understanding among states that seek to limit the proliferation of **missiles and missile technology.**

MTCR members

GLOBAL CONFERENCE ON CRYPTOCURRENCY

GS-III   SECURITY

Context
- Over 2,000 representatives from 132 countries attended the virtual 4th Global Conference on Criminal Finances and Cryptocurrencies.
- It was organised by the **Interpol, Europol and the Basel Institute on Governance**.
- The conference is an initiative of the Working Group on **Cryptocurrencies and Money Laundering** established in 2016 by the three organizations.
- It was launched with an objective of **strengthening knowledge, expertise and best practices for investigations into financial crimes and intelligence on virtual assets and cryptocurrencies.**
- The conference underlined the need to expand capabilities on ways to probe virtual assets and regulate virtual asset service providers to prevent money laundering.

Key outcomes
- A multi-agency and multi-disciplinary approach involving both the private and public sectors is key to tackling criminal finances and the misuse of cryptocurrencies.
- The conference's agenda included <u>trends and investigations on cryptocurrency related offences, exploring criminal flows and operations in the dark markets, ransomware and sextortion case studies, money laundering involving virtual assets, and the transfer of drug proceeds using cryptocurrencies.</u>
- The participants endorsed the recommendations on
  - capacity building measures on ways to probe virtual assets,
  - establishing clear regulatory framework to prevent money laundering,
  - adopting *'follow the money' strategies* against criminal proceeds,
  - strengthening information exchange to dismantle criminal networks, and
  - exploiting new technologies in criminal finances investigations.

INTERPOL'S CRIME PALETTE

RED NOTICE
Location and arrest of a person with a view to his/her extradition

BLUE NOTICE
Information on a person of interest in a criminal investigation

GREEN NOTICE
To warn about criminal activities and a possible threat to public safety

YELLOW NOTICE
To locate missing persons, often minors or persons unable to identify himself/

BLACK NOTICE
To seek information on unidentified bodies

ORANGE NOTICE
To warn of an event, person representing a serious or imminent threat to imminent threat to public safety

PURPLE NOTICE
Information on modi operandi, procedures, objects, devices, or hiding places used by criminals

Source: www.interpol.int

INTERPOL

- The International Criminal Police Organization commonly known as INTERPOL is an international organization that facilitates worldwide police cooperation and crime control.
- INTERPOL provides investigative support, expertise, and training to law enforcement worldwide, focusing on three major areas of transnational crime: **terrorism, cybercrime, and organized crime.**
- **Central Bureau of Investigation (CBI)** is India's officially designated single point of contact for liaison with the Interpol

Europol

- The European Union Agency for Law Enforcement Cooperation, better known under the name Europol is the **law enforcement agency of the European Union (EU)** formed in 1998.
- It handle criminal intelligence and combat serious international organised crime and terrorism through cooperation between competent authorities of EU member states.

Basel Institute on Governance

- The Basel Institute on Governance is an **independent, international non-profit organisation** dedicated to preventing and combating corruption and other financial crimes and to strengthening governance around the world.
- It is an Institute of the **United Nations Crime Prevention and Criminal Justice Programme Network.**
- It is known for **producing the Basel AML Index**, an annual ranking for measuring and comparing countries' risk of money laundering and terrorist financing.

Context

- Environment watchdog Centre for Science and Environment (CSE) recently shared with FSSAI the details of its investigation into the "well-organized" honey adulteration business in India.
- The CSE reported adulteration of honey with sugar syrup by major brands in the country including Dabur and Marico.

What is food adulteration?

- Food adulteration is an act of adding or mixing of poor quality, inferior, harmful, substandard, useless or unnecessary substances and chemicals to food by incidental or intentional means.

Causes of Food Adulteration

- **Profit motive of traders:** Done as a part of the business strategy
- **Food insecurity:** To increase quantity of food production and sales.
- **Increased Urbanization:** To make maximum profit from food items by fewer investments.
- **High population demands**: Increased food demand of the population and its changing trends.
- **Lack of awareness of general public:** Lack of consciousness of proper food consumption.
- Lack of effective food laws
- Lack of government in initiative
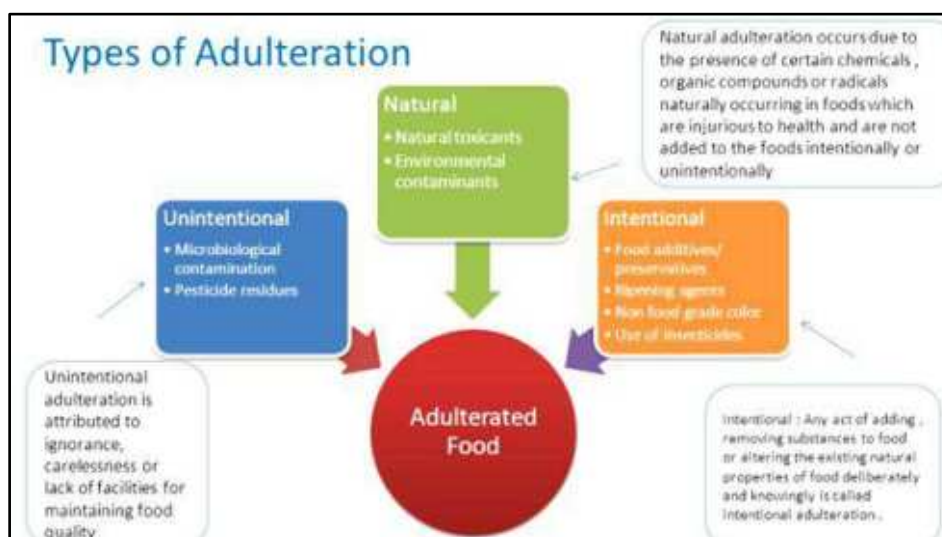
Food adulteration in India: Statistics

- Twenty six thousand food samples were found adulterated or misbranded in 2018-19 in India: GOI Report.
- In its 2020 annual report Food Safety and Standards Authority of India revealed the doubling of adulteration cases in the last eight years.
- According to the report, **Uttar Pradesh, Jharkhand, and Tamil Nadu** had the highest percentage (45%) of adultrated samples.
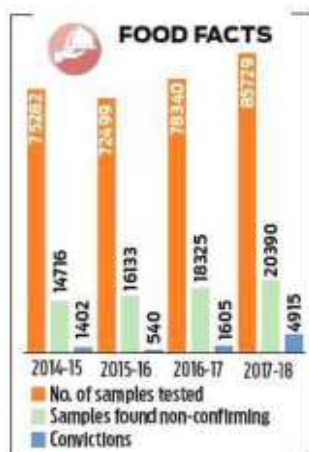
Food Products	Adulterant	Harmful Effects
Milk and Curd	Water and starch powder.	Stomach disorders.
Ghee, Cheese and Butter	Mashed potatoes, Vanaspati and starch powder.	Gastro-intestinal disturbances and other stomach disorders.
Grains	Dust, Pebbles, Stones, Straw, weed seeds, damaged grain, etc.	Liver disorders, Toxicity in the body, etc.
Pulses	Dyes, chemical and Lead Chromate.	Stomach disorders.

MILK

ADULTERANTS	HARMFUL EFFECTS
-unhygienic water	-food poisoning
-chalk powder	-heart problems
-soap powder	-cancer
-starch	-vomiting
-hydrogen peroxide	-nausea
-urea	
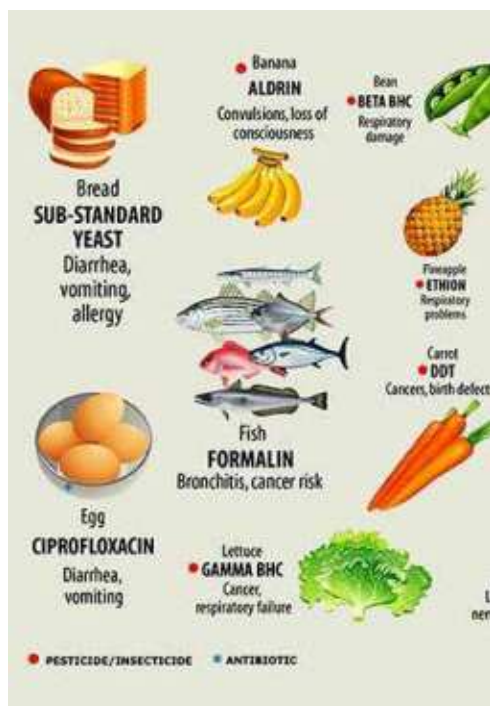
Coffee powder	Chicory, tamarind seeds powder.	Diarrhoea.
Tea	Artificial colouring agents.	Liver disorders.
Sugar	Chalk powder, Washing soda, Urea, etc.	Stomach disorders and kidney failure.
Pepper	Dried papaya seeds and blackberries.	Severe allergic reactions including stomach and skin irritations.
Mustard seeds	Argemone seeds.	Abdominal contractions, sluggishness and increased excretion.
Edible Oils	Mineral oil, Karanja oil, castor oil, and artificial colours.	Gallbladder cancer, allergies, paralysis, cardiac arrest, and increased LDL cholesterol.
Turmeric Powder	Pesticide residues, sawdust, chalk dust, industrial dyes, metanil yellow dye arsenic, lead metal etc.	Cancer and Stomach disorders.
Chilli and Coriander powder	Redbrick powder, Rhodamine B dye, Red lead, dung powder, soluble salts, water-soluble synthetic colours and other common salts.	Metal toxicity, Cancer, lead poisoning, tumour, variations in blood pressure and other stomach related disorders.
Cinnamon sticks	Cassia bark.	Liver Damage, Low Blood Sugar, Mouth Sores and increased risk of cancer.
Cumin seeds	Coloured grass seeds, sawdust and charcoal dust	Stomach disorders.
Jam, Juice and Candies	Non-permitted dyes including metanil yellow and other artificial food dyes.	These dyes are highly carcinogenic that have the potential to cause different types of cancer.
Jaggery	Washing soda, chalk powder	vomitings and other Stomach disorders
Honey	Molasses, dextrose, sugar and corn syrups	Stomach disorders
Fruits and Vegetables	Chemical dyes, Malachite green, calcium carbide, copper sulphate and oxytocin saccharin wax.	Stomach disorders, vomiting, and dyes used are highly carcinogenic.
Tomato sauces	Pumpkin pulp, non-edible artificial colours, and flavours.	Gastritis and inflammation of vital organs.
Ice Cream	Pepper oil, ethyl acetate, butyraldehyde, nitrate, washing powder. The kind of gum is	Dreadful diseases that affect organs including lungs, kidneys, and heart.

| | added which is prepared by boiling different animal parts including the tail, udder, nose, etc. | |

Erosion of Business Ethics

- From local vendors to multinational brands, food adulteration is a real problem in India, putting public health at risk.
- In the prevailing business environment, most of the organizations primarily aim to maximize profits.
- This results in **complete erosion of 'social responsibility'** which should be the cardinal mantra for transacting business.
- 70% of deaths are supposed to be of food-borne origin.
- Food adulteration in India starts from the field itself where fertilizers and pesticides are overused.
- A Report by Public Health Foundation of India attributed 80 percent of all premature deaths to contaminated food and water.
- Adulterated food is dangerous because it may be toxic and can affect health and it could deprive nutrients essential for proper growth and development of a human being.
- Right to food is one of the human rights of consumer's to which every consumer is entitled by virtue of being born as human beings.

Cases in Point

- In 2014, Mother Dairy's Deputy Manager was jailed for supplying adulterated milk products.
- The National Survey on Milk Adulteration 2011 found that eight per cent of milkin India was found to have detergents. Other contaminants like urea, starch, glucose and formalin, too, are used as adulterants.
- **World:** Cases of melamine contaminated milk products were found in China. The level of the toxic chemical melamine found in samples was up to 500 times the permitted limit.
- 1998, adulterated mustard oil poisoning resulted in the deaths of more than 60 in Delhi and 3000 people fell ill. It was found that white oil was mixed with edible mustard oil.
- In 2006 New Delhi Center for Science and Environment (CSE) reported that pesticide residues were found in Coca-Cola and PepsiCo brands. The pesticide content was found tobe 24 times higher than safety standards on aerated drinks developed by the Bureau of Indian Standards.
- **KFC in India**

  KFC entered India in 1995 and has been in the midst of controversy since then. The regulatory authorities found that KFC's chickens did not adhere to the Prevention of Food Adulteration Act, 1954. Chickens contained nearly **three times more monosodium glutamate (popularly known as MSG, a flavour enhancing ingredient) as allowed** by the Act. Since the late 1990s, KFC faced severe protests by People for Ethical Treatment of Animals (PETA), an animal rights protection organisation. PETA accused KFC of cruelty towards chickens and released a video showing the ill-treatment of birds in KFC's poultry farms. However, undeterred by the protests by PETA and other animal rights organizations, KFC planned a massive expansion programme in India and it succeeded in doing so.

---

*"**The lure of riches and general apathy towards mankind has led to adulterants being added to food from the simple stones in rice to the more harmful brick and boric powder...**"*

It is important to note that Food Adulteration is a part of a broader issue –i.e Food Fraud!
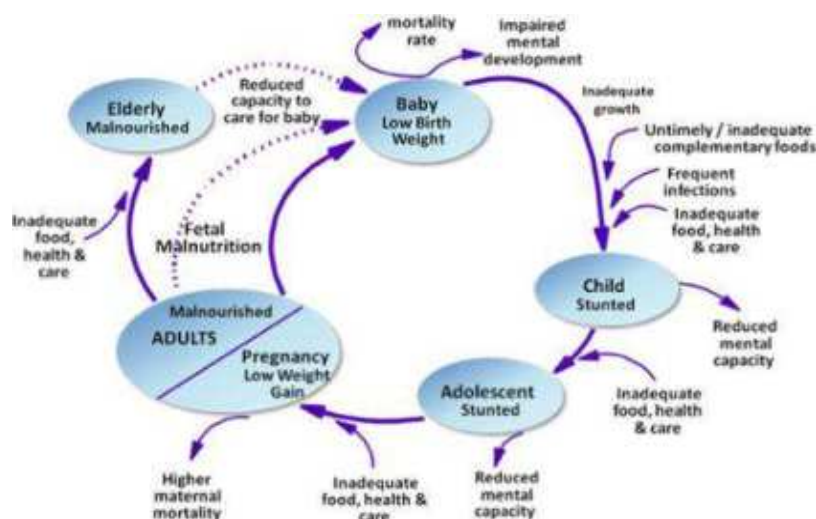
Long term implications

Steps taken

- To overcome food adulteration the government of India introduced many Acts.
  - ✓ The Prevention of Food Adulteration Act, 1954
  - ✓ The Fruit Products Order, 1955
  - ✓ The Meat Food Products Order, 1973
  - ✓ The Vegetable Oil Products (Control) Order, 1947
  - ✓ The Edible Oils Packaging (Regulation) Order, 1998
  - ✓ The Solvent Extracted Oil, De oiled Meal, and Edible Flour (Control) Order, 1967
  - ✓ The Milk and Milk Products Order, 1992
  - ✓ Food Safety and Standards Act, 2006
  - ✓ Food Safety and Standards (Licensing and Registration of Food Businesses) Regulation, 2011.
  - ✓ Food Safety and Standards (Packaging and Labeling) Regulation, 2011.
  - ✓ Food Safety and Standards (Laboratory and Sampling Analysis) Regulation, 2011.
  - ✓ Food Safety and Standards (Food Product Standards and Food Additives) Regulation, 2011.
- With respect to food adulteration laws, the recent Consumer Protection Bill 2018, has added certain provisions such as penalties for misleading advertisement as well as manufacturing and selling of adulterated or spurious goods.
- The Food Safety & Standards Authority of India (FSSAI) proposed to ban the sale & promotion of junk food in schools.
- Foods high in fat, salt & sugar can't be sold to school children in school canteens, mess premises & hostel kitchens, as well as within 50 meters of the school campus.

Supreme Court Judgements

- ➢ Make milk adulteration punishable with life imprisonment: **SC**
- ➢ In one of its recent judgements, the Supreme Court has observed that the word 'adulterated' provided in Sec-13 (2) of the Act **also includes 'misbranded'**.

The nexus between corrupt officials and Industries

In 2018, Patiala police claimed that officials of the district health department's food safety wing have been taking bribes since 2014 for allowing production of spurious items at the factory.Nearly 7,000 litre spurious milk, 50kg each of skimmed powered milk, 250 litres of chemical used in making adulterated milk, 20 quintal cheese and 12 quintal ghee were seized.

A threat to established practices: The beginning

In 1820, Accum published **"Treatise on Adulteration of Food",** in which he denounced the use of chemical additives to food. This work marked the beginning of an awareness of need for food safety oversight. Accum was the first person to tackle the subject and to reach a wide audience through his activities. However, it threatened established practices within the food processing industry, earning him many enemies among the London food manufacturers. Accum left England after a lawsuit was brought against him. He lived out the rest of his life as a teacher at an industrial institution in Berlin. Accum's book was an indictment of what he called **"respectable" criminals tampering with food to make money.**

**Mitigation measures for addressing food adulteration**

- There must be proper surveillance of the implementation of food laws.
- Regular surveillance, monitoring, inspection and random sampling of food products, including edible oil.

- There should be monitoring of the activities with periodical records of hazards regarding food adulteration.
- There should be periodical training programmes for Senior Officer/Inspector/Analysts for food safety.
- There should be consumer awareness programmes organized by holding exhibitions/seminars/training programmes and publishing pamphlets.
- In this context, FSSAI has released a booklet called **'Detect Adulteration with Rapid Test (DART)'** which covers more than 50 common quick tests for detection of food adulterants at household by the citizens themselves so as to induce awareness among the consumers about food safety.
- FSSAI has also introduced a policy for adoption of **Rapid Analytical Food Testing (RAFT) Kit** for regulatory purpose.
- Strict vigil by regularly drawing food samples from all sources viz. Manufacturers, wholesalers and retailers and proper conviction of offenders.
- Political will and strict actions against officials who collude with industries in food adulteration for money.
- Regular suspension and cancellation of licenses of offending establishments.
- Creation of a behavior based food safety management system.
- Signing bilateral memorandums of understanding with different food quality research centers across the world.

Development of stricter monitoring programs to screen all food products for safety is the only way to secure food supply and address the growing concern over food adulteration.

Inculcating "Food Ethics" in all the spheres: The Way Ahead

- Food ethics is an interdisciplinary field that provides ethical analysis and guidance for human conduct in the production, distribution, preparation and consumption of food.
- The need of the hour is to make ethical decision-making a standard practice in the food sector – for business, government and civil society.
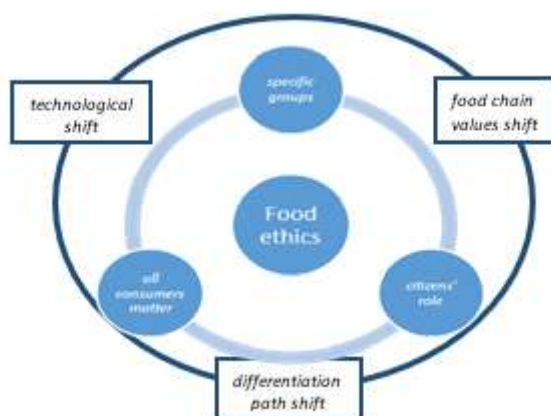
Respect for	WELLBEING (Health & Welfare)	AUTONOMY (Freedom & Choice)	JUSTICE (Fairness)
PEOPLE IN THE FOOD INDUSTRY	Income and working conditions	Freedom of action	Fair trade laws & practice
CITIZENS	Food safety & quality of life	Democratic informed choice	Availability of affordable food
FARM ANIMALS	Animal welfare	Behavioural freedom	Intrinsic value
THE LIVING ENVIRONMENT	Conservation	Maintenance of biodiversity	Sustainability

> The goal of the food safety professional should be to create a food safety culture, not a food safety program.
>
> Frank Yiannas

SHORT NEWS ARTICLES

GS 1

Kartarpur Sahib

Context

- Recently, India called Pakistan's decision to transfer the management of the Kartarpur Sahib gurudwara from a Sikh body to a separate trust as "highly condemnable".

Kartarpur Sahib

- Kartarpur Sahib, gurdwara in Kartarpur, is located in the Punjab province of Pakistan **on river Ravi.**
- At this site Guru Nanak, settled and assembled the Sikh community after his missionary travels and lived for 18 years until his death in 1539.
- The gurdwara is also notable for its location near the border between Pakistan and India. The shrine is visible from the Indian side of the border.

Kartarpur Corridor

- The Kartarpur Corridor is a **visa-free border crossing and secure corridor**, connecting the Gurdwara Darbar Sahib in Pakistan to the border with India.
- The crossing allows Sikh devotees from India to visit the gurdwara in Kartarpur, 4.7 kilometres from the India–Pakistan border on the Pakistani side without a visa.
- However, Pakistani Sikhs are unable to use the border crossing, and cannot access Dera Baba Nanak/Golden Temple on the Indian side without first obtaining an Indian visa.

Statue of Peace

Context

- Recently, Prime Minister Modi unveiled '**Statue of Peace'** to mark the 151st birth anniversary of Vijay Vallabh Surishwer Maharaj.

About

- Acharya Vijay Vallabhsuri was a Jain monk. He worked for the religious as well as improving the social life of people.
- He worked actively in the Punjab where he established schools, hospitals, educational institutes. He was given honorific Punjab Kesari.
- He supported Mahatma Gandhi"s non-violent movement for independence of India.

Lachit Borphukan

Context

- PM Modi paid tribute to Lachit Borphukan on Lachit Diwas.

About

- Lachit Borphukan was a commander and Borphukan in the Ahom kingdom, located in present-day Assam.
- He is known for his leadership in the 1671 **Battle of Saraighat**.
- Battle of Saraighat was a **naval battle fought in 1671** between the Mughal Empire (led by the Kachwaha king, Raja Ramsingh I), and the Ahom Kingdom (led by Lachit Borphukan) on the Brahmaputra river at Saraighat.
- The Ahom Army defeated the Mughal Army in this war.
- Every year Lachit Diwa is celebrated to commemorate the heroism of Lachit Borphukan and the victory of the Assamese army.

> The Ahom dynasty (1228–1826) ruled the present-day Assam, for nearly 598 years. The dynasty was established **by Sukaphaa**, a Shan prince who came to Assam after crossing the Patkai mountains. The rule of this dynasty ended with the Burmese invasion of Assam and the subsequent annexation by the British East India Company following the **Treaty of Yandabo in 1826.**

Avadhanam

Context

- Vice President Shri M Venkaiah Naidu has observed that 'avadhanam' as a literary feat has greatly contributed to the Telugu language's glorious tradition.

'Avadhanam'

- Avadhānaṃ is a literary performance popular from the very ancient days in India.
- It is a **poetic competition** where several challenges are given simultaneously to the poet who wants to become an Avadhani. **Pṛcchaka** (questioner) asks questions.
- Avadhānaṃ **originated as a Sanskrit literary process and is revived by poets in Telugu and Kannada** in modern times.
- It involves the partial improvisation of poems using specific themes, forms, or words.
- The true purpose of an Avadhanam event thus is the showcasing, through entertainment, of superior mastery of cognitive capabilities - of observation, memory, multitasking, task switching, retrieval, reasoning and creativity in multiple modes of intelligence - literature, poetry, music, mathematical calculations, puzzle solving etc.

Chhotu Ram

Context

- Prime Minister Narendra Modi unveiled a statue of Sir Chhotu Ram (1881-1945) in Haryana.

About

- Sir Chhotu Ram, was a prominent politician in British India's Punjab Province, who championed the interest of oppressed communities. For this feat, he was knighted in 1937.
- His first major achievement was the passage of the **Punjab Land Revenue (Amendment) Act, 1929**.
- The exploitation of the peasantry by moneylenders was brought to an end with a series of measures, starting with the **Punjab Regulation of Accounts Act, 1930**. It was followed by the **Punjab Debtors Protection Act of 1936** and the **Punjab Relief of Indebtedness Act, 1943.**
- It became mandatory for moneylenders to register themselves, without which they could not advance loans or prosecute farmers.
- The **Punjab Agricultural Produce Markets Act** was passed in 1939. Popularly called **the Mandi Act**, it provided for the constitution of market committees in notified areas, and helped free the farmer from exploitation.
- Not only were all these laws passed; Chhotu Ram also ensured their implementation.
- He was a co-founder of the **National Unionist Party** which ruled the United Punjab Province in pre-independent India and kept Congress and Muslim League at bay.

Mansar Lake

Context

- Recently, the centre inaugurated the Comprehensive Mansar Lake Rejuvenation/Development Planin Jammu which

About

- Mansar Lake is situated 37 km from Jammu.
- Surinsar-Mansar Lakes are designated as **Ramsar Convention in November 2005.**
- Mansar is of immense importance from pilgrimage point of view, as on the Eastern Bank of the Lake there is a shrine to Sheshnag (a snake with six heads).

Gilgit-Baltistan

Context

- Recently, India slammed Pakistan for its attempt to accord provincial status to the "so-called Gilgit-Baltistan"

About

- Gilgit Baltistan is bordered by Kashmir, POK, China and Afghanistan.
- It is a part of Ladakh, however illegally occupied by Pakistan.
- Three of the **world's longest glaciers outside the polar regions** are found in Gilgit-Baltistan: the **Biafo Glacier, the Baltoro Glacier, and the Batura Glacier.**
- The Deosai Plains in this region constitute the second-highest plateau in the world after Tibet, at 4,115 metres.
- The plateau lies east of Astore, south of Skardu and west of Ladakh.
- Gilgit-Baltistan is home to more than 20 peaks of over 6,100 metres, including **K-2 the second highest mountain** on Earth.

Aegean Sea

Context

- Recently, a strong earthquake of a magnitude of up 7.0 struck the Aegean Sea.

About

- The Aegean Sea is an elongated embayment of the Mediterranean Sea.
- It is between Greece and Anatolia.
- The Aegean is connected through the straits of the Dardanelles, the Sea of Marmara, and the Bosporus to the Black Sea, while the island of Crete can be taken as marking its boundary on the south.
- The Aegean Islands are traditionally subdivided into seven groups, from north to south:
  - ✓ Northeastern Aegean Islands (Thracian Sea)
  - ✓ West Aegean Islands (Euboea)
  - ✓ Sporades (Northern)
  - ✓ Cyclades
  - ✓ Saronic Islands (Argo-Saronic Islands)
  - ✓ Dodecanese (Southern Sporades)
  - ✓ Crete

Char-Chaporis

Context

- Proposal of "Miya museum" reflecting the "culture and heritage of the people living in char-chaporis" has stirred up a controversy in Assam.

About

- The Char-chaporis consitute an area of the Brahmaputra River that is comprised from sediments carried by the river.
- 'Char' indicates **a floating island** while 'Chapori' signals towards **low-lying riverbanks prone to flooding.**
- They keep changing shapes — a char can become a chapori, or vice versa, depending on the push and pull of the Brahmaputra.

Miyas

- The 'Miya' community comprises descendants of Muslim migrants from Bangladesh to Assam.
- They came to be referred to as 'Miyas', often in a derogatory manner.
- The community migrated in several waves — starting with the British annexation of Assam in 1826, and continuing into Partition and the 1971 Bangladesh Liberation War.
- Years of discontent among the indigenous people led to the six-year-long (1979-85) anti-foreigner Assam Agitation to weed out the Miyas.
- Miyas were perceived as trying to take over jobs, language and culture of the indigenous population.

Ethiopia's Tigray region

Context

- United Nations has warned that nine million people risk displacement from an escalating conflict in Ethiopia's Tigray region.

About

- Tigrey is the **northernmost region of Ethiopia**. Tigray is the homeland of the Tigrayan, Irob and Kunama peoples.
- Tigray is bordered by **Eritrea to the north, Sudan to the west,** the Amhara Region to the south and the Afar Region to the east and south east.
- Ethiopia has land borders with 7 countries: **Somalia, Somaliland, Djibouti, Kenya, Eritrea, Sudan, and South Sudan**

Nagorno-Karabakh

Context

- Recently, Armenia and Azerbaijan agreed on a deal with Russia to end fierce clashes over Nagorno-Karabakh region.
- Armenia and Azerbaijan agreed on a deal with Russia to end fierce clashes over Nagorno-Karabakh

The region

- Nagorno-Karabakh, also known as Artsakh, is a **landlocked region in the South Caucasus,** within the mountainous range of Karabakh.
- Nagorno-Karabakh is a disputed territory, internationally recognized as part of Azerbaijan, but mostly governed by the Republic of Artsakh a de facto independent state with an Armenian ethnic majority.

South Caucasus

- South Caucasus also known as the Transcaucasia is a geographical region in the vicinity of the southern Caucasus Mountains on the **border of Eastern Europe and Western Asia**.
- Transcaucasia roughly **corresponds to modern Georgia, Armenia, and Azerbaijan.**

Tristan De Cunha

Context

- Recently, Tristan da Cunha, declared the largest fully protected marine reserves in the Atlantic Ocean.

About

- Tristan da Cunha, is a small **chain of volcanic islands in the South Atlantic**. It is an isolated UK Overseas Territory.
- The water around the islands are considered to be the richest in the world.
- The mountainous archipelago Tristan da Cunha is home to millions of seabirds and unique land birds that are comparable to the Galapagos island finches - Royal Society for the Protection of Birds (RSPB).
- The island has been **identified as an Important Bird Area by BirdLife International.**
  - ✓ BirdLife International is a global partnership of non-governmental organizations that strives to conserve birds and their habitats.
- It is inhabited by less than 300 humans. It is the most remote inhabited archipelago in the world.

Blue Belt Programme

- After joining the UK's Blue Belt Programme, it will become the largest no-take zone in the Atlantic and the fourth largest on the planet. This means fishing, mining and any such activities will not be allowed.
- UK's Blue Belt Programme, will provides over 27 million pounds over a period of five years for marine conservation around the UK Overseas Territories and international organisations.

Katchall Island

Context

- Recently, the Indian Coast Guard's fuel tanker was dangerously drifting towards the **Katchall Island** in Nicobar due to power failure.

About

- Katchal is one of the Nicobar Islands.
- Katchal Island was previously known as Tihanyu.
- Katchal is inhabited by **Nicobari Tribes and Migrated Tamilians** (For Rubber plantation workers under **Sastri-Srimao Bandaranayaka Pact** of 1964).
- The declaration of Aboriginal Tribal Reserve Area (ATRA) made the Island inaccessible to outsiders.
- Currently even Indian nationals need a special tribal pass to visit the islands.
- Only Government Servants (outsiders) posted to Katchal Islands are allowed to stay in the island.

The Sirima–Shastri Pact (also known as the Indo-Ceylon Agreement and Bandaranaike-Shastri Pact) was an agreement that was signed between Sirimavo Bandaranaike, the Prime Minister of Sri Lanka, and Lal Bahadur Shastri, the Prime Minister of India, on 30 October 1964. Officially, it was known as Agreement on Persons of Indian Origin in Ceylon. The central part of the pact was the granting of Ceylonese citizenship to 300,000 of the Indian population in Sri Lanka, while 525,000 would be repatriated to India. It was agreed that the citizenship of the remaining 150,000 Indian residents of Ceylon would be negotiated at a later point.

Pangda Village

Context

- According to media reports, China has established a village called **Pangda**, 2 km within Bhutan's territory which is very close to Doklam.
- This was later denied by Bhutan and China.

About

- Pangda is situated just east of the Doklam plateau and approximately 10 km east of the India-Bhutan-China trijunction.
- Doklam is an area with a plateau and a valley, lying between China's Chumbi Valley to the north, Bhutan's Ha Valley to the east and India's Sikkim state's Nathang Valley to the west.

Shahtoot Dam

Context

- India will be constructing the Shahtoot Dam on Kabul river in Afghanistan.

Project impact

- Supply drinking water for around 2 Million people in Kabul city
- Recharge of ground water for drinking purposes in Kabul ground water aquifer.
- Contribution to the national food security (production of more crops, fishery and industry)
- Promotion of tourism industry
- Increase in the job opportunities and income.

Kabul River

- The Kabul River emerges in Maidan Wardak Province in the Sanglakh Range of the Hindu Kush mountains in Afghanistan, and is separated from the watershed of the Helmand River by the Unai Pass. The Kabul River empties into the Indus River near Attock, Pakistan.

Saffron Bowl

Context

- The saffron bowl, which was so far confined to Kashmir, may soon expand to the North East of India.
- Plants from seeds transported from Kashmir to Sikkim and acclimatized there are now flowering in Yangyang in the Southern part of the North-East state.

About

- **Pampore region**, in India, commonly known as Saffron bowl of Kashmir, is the main contributor to saffron production, followed by Budgam, Srinagar, and Kishtiwar districts.
- Saffron has traditionally been associated with the famous Kashmiri cuisine.
- It's its medicinal values were considered as part of the rich cultural heritage of Kashmir.

Mount lli Lewotolok

Context

- Recently, Indonesia's Mount lli Lewotolok erupted, sending a column of smoke and ash into the sky.

About

- The 5,423-meter mountain is one of three currently erupting in Indonesia after Merapi on Java island and Sinabung on Sumatra island.
- Indonesia has 400 volcanoes across its 17,000 islands. There are 129 active volcanoes, of which some 65 are classified as dangerous.
- Indonesia is prone to seismic upheaval due to its location on the Pacific "Ring of Fire," an arc of volcanoes and fault lines around the Pacific Ocean.
  - ✓ About 90% of the world's earthquakes and about 81% of the world's largest earthquakes occur along the Ring of Fire.

POLITY

Motor Vehicle Aggregator Guidelines

Context

- The Ministry of Road Transport and Highways has issued the Motor Vehicle Aggregator Guidelines 2020 as per the requirements and provisions of the Motor Vehicles (Amendment) Act, 2019 and further as per the amended Section 93 of the Motor Vehicles Act, 1988.

Objectives of issuing these guidelines include

- Regulating shared mobility and reducing traffic congestion and pollution.
- Prior to the amendment the regulation of Aggregator was not available
- To provide ease of doing business, customer safety and driver welfare

The Guidelines provide for

- License issued by the State Government is a mandatory re-requisite for permitting business operations by the aggregator.
- For regulating the aggregators, the guidelines specified by the Central Government may be followed by State Governments
- In order to ensure compliance with the license requirements the Act stipulates penalties under Section 93 of the Act.
- It seeks to establish a regulatory framework for aggregators by State Governments to ensure that the aggregator's are accountable and responsible for the operations executed by them.
- The business shall also be considered as a service provided by the aggregators to serve the larger public interest in terms of generation of employment, commutation facilities to the public which is cost effective and comfortable.
- Enable the government to achieve its goal of ensuring maximisation of using public transport, reduced fuel consumption consequently reducing the import bill, reduced vehicular pollution thereby reduced harm to human health.
- It has exempted the electric vehicles and vehicles running on Ethanol or Methanol from the requirements of Permit. The State Governments to facilitate operations of such vehicles.

Proposed Guidelines to ensure

- regulation of aggregators,
- eligibility conditions / qualifications for of an entity to be an aggregator,
- compliances with regard to vehicles and drivers
- compliances with regard to Aggregator App and Website
- manner of fare regulation,
- drivers welfare
- service to citizens parameters and ensuring safety
- evolving concepts like pooling and ride sharing in private cars,
- license fees / security deposit and powers that the State Governments

Food Safety and Standards (Import) Amendment Regulations, 2020

Context

- Food regulator FSSAI has proposed amendments in import regulations, **making registration and audit mandatory for foreign food manufacturing facilities** that exports certain categories of food products to India.
- The categories of food products would be specified by the Food Safety and Standards Authority of India (FSSAI) from time to time based on the risk.
- The FSSAI has sought comments from public on its draft regulations '**Food Safety and Standards (Import) Amendment Regulations, 2020**'
- It seeks to amend the import regulations of 2017.
- The foreign food manufacturing facilities falling under such categories and desirous to export such article of food to India should register with the food authority before exporting to India.
- Foreign Food manufacturing facility either directly or through importer may apply for registration.
- Foreign food manufacturing facility found to be in compliance of Food Safety and Standards Act would be registered for **five years.**
- Foreign Food manufacturing facility which requires **mandatory audit** shall get their facility audited by the auditing agency recognized by the Food Authority.
- FSSAI also **proposes suspension or cancellation of registration** if foreign food manufacturing facility or their food products are found not to be in compliance of food safety law.
- However, food authority might review the suspension or cancellation after giving opportunity for hearing or clarification, as deemed fit.

About FSSAI

- Food Safety and Standards Authority of India (FSSAI) is an autonomous body established under the Ministry of Health & Family Welfare, Government of India.
- The FSSAI has been established under the Food Safety and Standards Act, 2006, which is a consolidating statute related to food safety and regulation in India.
- FSSAI is responsible for protecting and promoting public health through the regulation and supervision of food safety.

Shashi Shekhar Vempati Committee

Context

- The Information and Broadcasting Ministry has constituted a four-member committee to **review the guidelines on television rating agencies** headed by **Shashi ShekharVempati**, CEO of Prasar Bharati.

Shashi Shekhar Vempati Committee

- This comes after the Mumbai police investigations that revealed that a few news channels had tampered with the ratings.
- The existing guidelines were issued after detailed deliberations by the Parliamentary committee and on the recommendations of the **Telecom Regulatory Authority of India (TRAI).**
- These guidelines have been in operation for the last few years.
- There is a need for a fresh look at it keeping in view of the recent recommendations of TRAI, technological advancements and for further strengthening of the procedures for a credible and transparent rating system.
- The committee will carry out an appraisal of the existing system, examine TRAI recommendations notified from time to time, overall industry scenario and address the needs of the stakeholders.

> **Telecom Regulatory Authority of India (TRAI)**
> **Need**
> - The entry of private service providers brought with it the inevitable need for independent regulation.
>
> **Origin**
> - The Telecom Regulatory Authority of India (TRAI) was, thus, established with effect from 20th February 1997 by an Act of Parliament, called the Telecom Regulatory Authority of India Act, 1997, to regulate telecom services, including fixation/revision of tariffs for telecom services which were earlier vested in the Central Government.
>
> **TRAI's Mission**
> - to create and nurture conditions for growth of telecommunications in the country in a manner and at a pace which will enable India to play a leading role in emerging global information society.
> - One of the main objectives of TRAI is to provide a fair and transparent policy environment which promotes a level playing field and facilitates fair competition.
> - In pursuance of above objective TRAI has issued from time to time a large number of regulations, orders and directives to deal with issues coming before it and provided the required direction to the evolution of Indian telecom market from a Government owned monopoly to a multi operator multi service open competitive market.
>
> **Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT)**
> - The TRAI Act was amended by an ordinance, effective from 24 January 2000, establishing a Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT) to take over the adjudicatory and disputes functions from TRAI.
> - TDSAT was set up to adjudicate any dispute between a licensor and a licensee, between two or more service providers, between a service provider and a group of consumers, and to hear and dispose of appeals against any direction, decision or order of TRAI.

Star Campaigner

Context

- Supreme Court stayed the Election Commission order revoking "star campaigner" status of Kamal Nath.
- "Taking a serious note of the breach of "ethical and dignified behaviour", the election watchdog had revoked the "star campaigner" status of the former Madhya Pradesh chief minister for repeated violations of the model code during campaign for the by polls.

Who is a star campaigner?

- A star campaigner is a leader, who seeks vote for his party during the election.
- He or she can be a politician or even a film star.
- There is no strict law governing who can or cannot be made a star campaigner.
- It depends on the party whom to choose as the star campaigner for the election.
- It is a status that the political parties contesting an election give to certain big names who the parties feel can fetch more votes from people with special campaigning style.

For polls, how many star campaigners can be there?

- When the EC announces, poll dates for certain elections, it also issues issued guidelines for the Model Code of Conduct regulating poll campaign by them.
- As per the guidelines of the EC, a 'recognised' party can nominate a maximum of 40 star campaigners for a particular election.
- An unrecognised political party can nominate a maximum of 20 star campaigners.

Why star campaigners are needed?

- Political parties believe that voters will get attracted by the star campaigners and will vote to that particular party.
- Some other parties believe that start campaigners can fetch more votes than ordinary campaigners.
- However, it has a lot to do with poll expenditure as well. The EC keeps a tab on expenditure incurred by individual candidates during campaign Rs 70 lakh for most states in one constituency by each candidate.

WWF Water Risk Filter Report

Context

- Nearly a third of the 100 cities in the world susceptible to 'water risk' — defined as losses from battling droughts to flooding — are in India, according to the WWF Water Risk Filter.

WWF Water Risk Filter

- This is an online tool, co-developed by the World Wide Fund for Nature that helps evaluate the severity of risk places faced by graphically illustrating various factors that can contribute to water risk.
- Jaipur topped the list of Indian cities, followed by Indore and Thane.
- Mumbai, Kolkata and Delhi also featured on the list.
- The global list includes cities such as Beijing, Jakarta, Johannesburg, Istanbul, Hong Kong, Mecca and Rio de Janeiro. China accounts for almost half the cities.

Key findings

- According to the scenarios in the WWF Water Risk Filter, the 100 cities that are expected to suffer the greatest rise in water risk by 2050 are home to at least 350 million people as well as nationally and globally important economies.
- Globally, populations in areas of high-water risk could rise from 17% in 2020 to 51% by 2050.

'Restore wetlands'

- "The future of India's environment lies in its cities.
- As India rapidly urbanises, cities will be at the forefront both for India's growth and for sustainability.
- For cities to break away from the current vicious loop of flooding and water scarcity, nature-based solutions like restoration of urban watersheds and wetlands could offer solutions.
- This give chances to re-evolve and re-imagine what the future of the cities could be.
- Other than droughts and floods, the city's risk levels were scored by evaluating several factors, including aridity, freshwater availability, climate change impact, the presence of regulatory laws governing water use, and conflict.

Smart Cities initiative

- The Smart Cities initiative in India could offer an integrated urban water management framework combining urban planning, ecosystem restoration and wetland conservation for building future- ready, water smart and climate resilient cities.
- Urban watersheds and wetlands were critical for maintaining the water balance of a city, flood cushioning, micro-climate regulation and protecting its biodiversity, the authors note.
- There are many initiatives across the country that could be scaled up where groups have come together and revived wetlands such as Bashettihalli wetland in Bengaluru and the Sirpur Lake in Indore.
- Urban planning and wetland conservation needed to be integrated to ensure zero loss of freshwater systems in the urban areas, they noted.

SOCIETY

Covid-19 limited couples' access to contraceptives: UNAIDS

Context

- There could be an estimated 123,000 to 293,000 new HIV infections and 69,000 to 148,000 AIDS-related deaths between 2020 and 2022 globally due to the pandemic's long-term impact
- Covid-19 pandemic has **limited access to contraceptives for more than 25 million couples in** India, according to a report released by UNAIDS.
- The World AIDS Day report 2020 also pointed out that among people living with HIV, approximately **35% of women aged 15 to 49 years faced discriminatory attitudes between 2014 and 2019.**
- The report outlined that insufficient investment and action on HIV and other pandemics left the world exposed to covid-19.
- Pandemic has impacted the poorest and vulnerable populations.
- **Home quarantining and the diversion of health resources** to respond to the pandemic has limited the access to health services and made women, girls, and other **vulnerable populations more susceptible to health risks** such as reproductive health, HIV/AIDS, unintended pregnancies, and menstrual hygiene.

What need to be done?

- Covid-19 has shown that investments in health save lives and also provide a foundation for strong economies.
- Health and HIV programmes **must be fully funded**, both in times of plenty and in times of economic crisis.
- To get the global response back on track will require putting people first and tackling the inequalities on which epidemics thrive.

About United Nations Programme on HIV and AIDS (UNAIDS)

- It is the main advocate for accelerated, comprehensive and coordinated global action on the HIV/AIDS pandemic.
- The mission of UNAIDS is to lead, strengthen and support an expanded response to HIV and AIDS that includes preventing transmission of HIV, providing care and support to those already living with the virus, reducing the vulnerability of

individuals and communities to HIV and alleviating the impact of the epidemic.
- UNAIDS seeks to **prevent the HIV/AIDS epidemic from becoming a severe pandemic.**
- UNAIDS is headquartered in Geneva, Switzerland, where it shares some site facilities with the World Health Organization.
- It is a **member of the United Nations Development Group**.

Conclusion
- Governments must ensure uninterrupted supply of reversible methods of contraception and also increase the availability of self-care methods like condoms and oral contraceptives pills so that couples are able to adequately prevent unintended pregnancies and take some of the burden off the public health system.

WHO Strategy to eliminate cervical cancer
- World Health Organisation (WHO) Global Strategy to Accelerate the Elimination of Cervical Cancer, outlines three key steps: **vaccination, screening and treatment.**
- Successful implementation of all three could **reduce more than 40% of new cases of the disease and 5 million related deaths by 2050.**
- Meeting the following targets by 2030 will place all countries on the path toward elimination:
  - **90%** of girls fully vaccinated with the HPV vaccine by 15 years of age
  - **70%** of women screened using a high-performance test by age 35 and again by 45
  - **90%** of women identified with cervical disease receive treatment (90% of women with pre-cancer treated and 90% of women with invasive cancer managed).
- **Cervical cancer**, the fourth most common cancer among women globally, is a **preventable** disease but strikes at least 5,70,000 each year and kills 3,11,000.
- Almost all cases are linked to infection with **human papillomavirus (HPV) types transmitted** by **sexual contact**.
- Infection rates are twice as high in developing countries and death rates three times higher than in high-income countries.

Body mass index of Indian 19-year-olds among lowest in 200 countries
Context
- India ranks third and fifth from the bottom respectively among countries where 19-year-old girls and boys have a low body mass index (BMI), according to a study published in The Lancet.
- The study provides new estimates for height and BMI trends in 2019 across 200 countries after analyzing data from 2,181 studies.
  - BMI is measured as the **weight in kg divided by the square of the height in metres.**
  - World Health Organization guidelines define a normal BMI range as 18.5 to 24.9, overweight as 25 or higher, and obesity as 30 or higher.

Key findings of report
- The mean BMI of 19-year-old boys is 20.1 in India, compared to a high of 29.6 in the Cook Islands and a low of 19.2 in Ethiopia.
- For Indian girls, the mean BMI is again 20.1, compared to a high of 29.0 in Tonga and a low of 19.6 in Timor-Leste.
- The mean height of Indian 19-year-olds is 166.5 cm for boys and 155.2 cm for girls, well below the high of Netherlands boys (183.8 cm) and girls (170 cm).
- The analysis charts child and adolescent physical growth trends over 35 years.
- Both height and BMI have increased from 1985 to 2019 although there is still a great deal of potential for height while curbing any future rise in obesity so programmes targeted towards the poor from birth through school years are needed.
- In developing countries like India, we have a dual burden i.e., **overnutrition and undernutrition.**
- The prevalence of overweight and obesity among adolescents of both Indian girls and boys is lower when compared to children of developed nations.
- Overweight and obesity are mostly carried over to adult age and are causes for many metabolic disorders like insulin resistance, diabetes, hypertension, CVDs, stroke, and some cancers.

Reasons for low BMI
- The reasons could be several, like variations in the epigenetic, dietary intakes, familial, psychosocial, parental education, occupations, income etc.

THE TOP 3, THE BOTTOM 3, AND INDIA			
BOYS, AGE 19		**GIRLS, AGE 19**	
MEAN HEIGHT, 2019		MEAN HEIGHT, 2019	
Netherlands	183.8 cm	Netherlands	170.4 cm
Montenegro	183.3 cm	Montenegro	170.0 cm
Estonia	182.8 cm	Denmark	169.5 cm
India	166.5 cm	India	155.2 cm
Solomon Islands	163.1 cm	Nepal	152.4 cm
Lao PDR	162.8 cm	Bangladesh	152.4 cm
Timor-Leste	160.1 cm	Guatemala	150.9 cm
MEAN BMI, 2019		MEAN BMI, 2019	
Cook Islands	29.6	Tonga	29.0
Nauru	29.5	Cook Islands	28.9
Tuvalu	28.2	Nauru	28.6
India	20.1	India*	20.1
DR Congo	19.9	Romania	19.9
Niger	19.8	Timor-Leste	19.6
Ethiopia	19.2		

India 3rd from bottom
Source: The Lancet

What can be done?

- There is a need for **regular diet and nutrition surveys in India** to avert the increase of overweight and obesity among children and adolescents.

SERB – POWER (Promoting Opportunities for Women in Exploratory Research)

Context

- Union minister launched DST initiative SERB – POWER (Promoting Opportunities for Women in Exploratory Research)
- It is a scheme to **mitigate gender disparity in science and engineering research funding in various S&T programs in Indian academic institutions and R&D laboratories.**
- Enhancement of participation and promotion of women in the research workforce is one of the prime priorities of our Government.

Science and Engineering Research Board (SERB)

- It is a Statutory body of the Department of Science and Technology (DST), Government of India.

Significance of this move

- Integration of the gender dimension in research design
- Enhancement of participation and promotion of women in the research workforce
- **Women empowerment**
- Cultivate women friendly culture in academic and research institutions and
- ensure more women in leadership positions in decision making bodies

SERB – POWER Scheme will have two components

(i) SERB-POWER Fellowship

(ii) SERB- POWER Research Grants

The salient features of each of these are as follows:

- **Target:** Women researchers in 35-55 years of age. Up-to 25 Fellowships per year and not more than 75 at any point in time.
- **Components of support:** Fellowship of Rs. 15,000/- per month in addition to regular income; Research grant of Rs. 10 lakh per annum; and Overhead of Rs. 90,000/- per annum.
- **Duration:** Three years, without the possibility of extension.
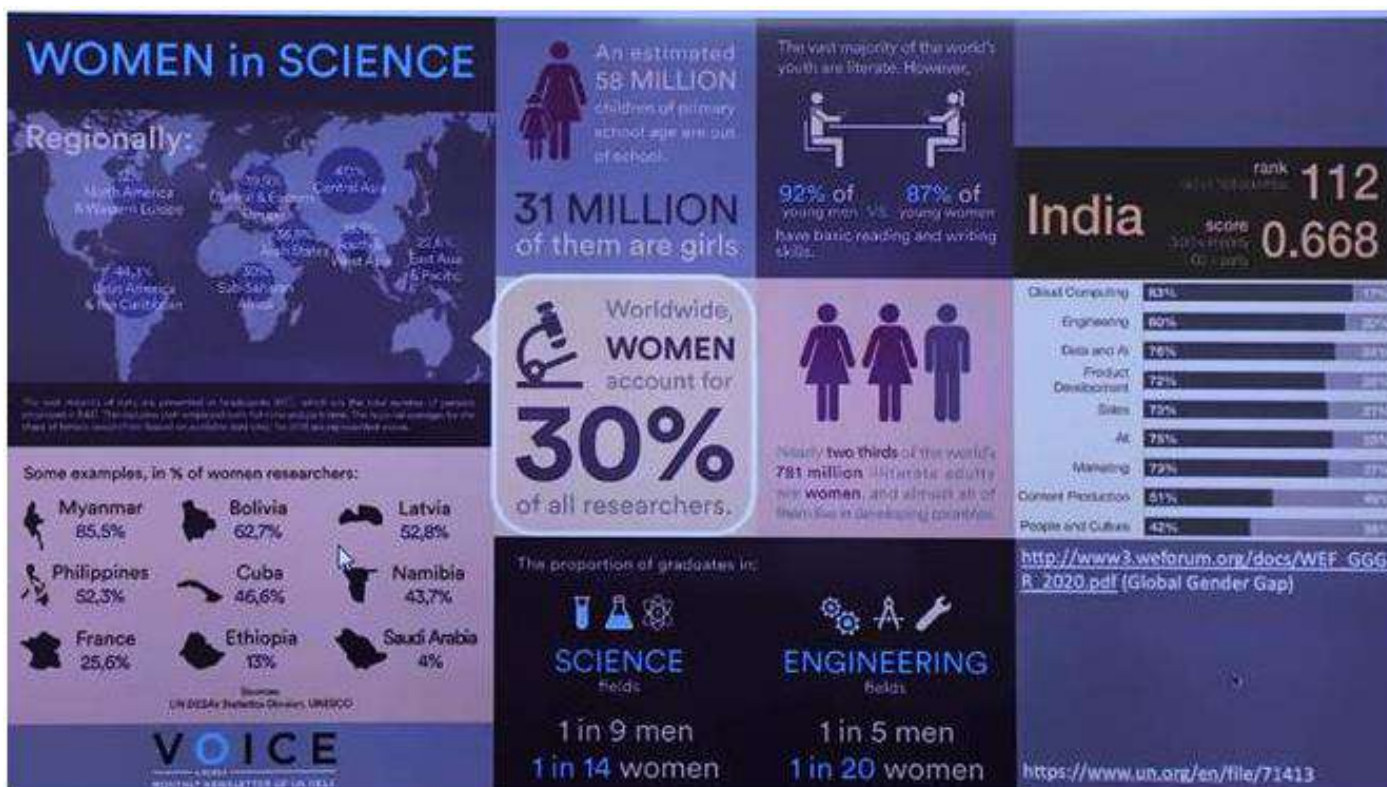
INTERNATIONAL RELATIONS

Reciprocal Access Agreement (RAA)

Context

- Japanese Prime Minister and his Australian counterpart have signed a landmark defence deal in a bid to counter China's growing influence in the South China Sea and over the Pacific island nations.

About Reciprocal Access Agreement (RAA)

- Reciprocal Access Agreement (RAA) will allows Japanese and Australian troops to visit each other's countries and conduct training and joint operations.
- This treaty will strengthen their security ties and facilitate cooperation between defence forces.
- The two sides also agreed on the need for a framework to allow Japanese military to protect Australian forces if needed.
- The two sides expressed serious concern about the situation in the South China Sea and reconfirmed their strong opposition to any coercive or unilateral attempts to change the status quo and thereby increase tensions in the region.

Regional Comprehensive Economic Partnership (RCEP)

Context

- The Regional Comprehensive Economic Partnership (RCEP), a **mega trade bloc** comprising 15 countries led by China that came into existence.
- On the sidelines of the 37th ASEAN Summit held virtually, the newly formed organisation has laid down the path for restarting discussion that had failed to admit India earlier and said "new" developments would be taken into consideration when India re-applied.
- India would have to write expressing "intention" to join the organisation to restart negotiation for membership.
- RCEP, 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.**
- The mega trade bloc is a landmark trade initiative, which is expected **to boost commerce** among the member-countries spread across the **Asia-Pacific region.**

India's reluctance

- RCEP is a **China-backed grouping.**
- India's ties with China in recent months have been disturbed by the **military tension in eastern Ladakh along the LAC.**
- In the meantime, India has also held **maritime exercise** with Japan, Australia, United States for the "**Quad**" that was interpreted as an anti-China move.
- However, these moves did not influence Japanese and Australian plans regarding RCEP.

Leverage for China

- The agreement means a lot for China, as it will give it access to Japanese and South Korean markets in a big way, as the three countries have not yet agreed on their FTA

The Regional Comprehensive Economic Partnership 2020

- This happened, despite the pandemic, is certainly leverage for China, and shows the idea of decoupling from China is not a substantive issue in a regional sense.

South China Sea

- India's concerns regarding China expansionism and the need to adhere to the rules-based international system were reflected.
- Need to maintain "respect for territorial integrity and sovereignty" — an obvious reference to the tension at LAC and Chinese activities in Pakistan-occupied Kashmir.

Biggest trade deal ever?

The Regional Comprehensive Economic Partnership is a draft trade agreement involving 16 nations (ASEAN+6). Trade data show that India has a trade deficit with 11 of these countries but its exports have gone up due to deals such as the ASEAN Free Trade Agreement. What does the RCEP hold for India?

30-40% of global trade is expected to come under RCEP

1/3rd RCEP could account for a third of the global GDP (for comparison, NAFTA, the biggest trade deal in terms of value, accounts for 28% of global GDP)

6 No. of years RCEP has been under negotiation

India's concerns
- Opening its markets for cheaper goods from countries such as China, which may impact local manufacturers
- Ensuring that RCEP countries open their markets for Indian manpower (services)
- RCEP countries propose that 90% of traded items should be tariff-free

ASEAN boost
In the past, India's trade has greatly benefited from the ASEAN-India Free Trade Area deal (which encompasses several RCEP nations)

Free trade deal comes into force

IMPORTS FROM ASEAN ($ BN)
EXPORTS TO ASEAN ($ BN)

2008 2010 2012 2014 2016 2018

Source: Department of Commerce

The equation
India's biggest trade partner in the RCEP bloc is China, with which it has a huge deficit (higher value of exports than imports). Larger the deficit, higher the trade imbalance

All figures ($ '000 mn)

Country	Imports	Exports	Total trade	Deficit
China	70.32	16.75	87.07	-53.57
Singapore	16.28	11.57	27.85	-4.71
South Korea	16.76	4.71	21.46	-12.05
Indonesia	15.84	5.28	21.12	-10.57
Japan	12.77	4.86	17.63	-7.91
Malaysia	10.82	6.44	17.25	-4.38
Australia	13.13	3.52	16.65	-9.61
Vietnam	7.19	6.51	13.70	-0.68
Thailand	7.44	4.44	11.88	-3.00
The Philippines	0.58	1.74	2.32	1.16

The Philippines (shown in table), Laos, Myanmar and Cambodia (not shown) are the only RCEP countries with which India has a surplus

Sichuan-Tibet Railway

Context
- Chinese President instructed officials to expedite the construction of the new USD 47.8 billion railway project connecting the country's southwest Sichuan province to Linzhi in Tibet **close to the Indian border in Arunachal Pradesh**.
- China claimed that it would play a key role in safeguarding stability in the border areas.
- The Sichuan-Tibet Railway will be the **second railway line into Tibet after the Qinghai-Tibet Railway project.**
- It will go through the southeast of the Qinghai-Tibet Plateau, one of the world's most geologically active areas.
- The Sichuan-Tibet Railway starts from Chengdu, capital of Sichuan province and travels through Ya'an and enters Tibet via Qamdo, shortening the journey from Chengdu to Lhasa from 48 hours to 13 hours.

India's concern
- The India-China border dispute covers the 3,488-km-long Line of Actual Control, the de-facto border between the two countries.
- Linzhi, also known as Nyingchi, is **located close to the Arunachal Pradesh border.**
- Linzhi also has an airport, which is one of the five airports built by China in the Himalayan region.

Rail to border town
China's planned railway line will run from Lhasa in Tibet to Chengudu, the capital of Sichuan province, connecting both the places to Nyingchi, a city near the Arunachal Pradesh border

- The first segment of the line within Sichuan province, from Chengdu to Yaan, was completed in December 2018
- Work on the 1,011 km section from Yaan to Nyingchi, which was formally launched this week, will be finished in 2030

- The 435 km section from Nyingchi-Lhasa has been under construction since 2015, and will be finished by the end of 2021

- **China claims Arunachal Pradesh as part of south Tibet**, which is firmly rejected by India.

UN ADVISORY COMMITTEE ON ADMINISTRATIVE AND BUDGETARY QUESTIONS (ACABQ)

Context
- Indian diplomat Vidisha Maitra elected to the U.N. Advisory Committee on Administrative and Budgetary Questions (ACABQ).

ACABQ
- It is a **subsidiary organ of the General Assembly.**
- The 193-member General Assembly appoints members of the Advisory Committee.
- Members are selected on the basis of broad geographical representation, personal qualifications and experience.
- ACABQ **ensures that fund contributions to the U.N. system are put to good effect and that mandates are properly funded.**
- India's membership of ACABQ is particularly relevant now when the U.N. budget has come under increasing pressure.
- ACABQ consists of **16 members appointed by the Assembly** in their individual capacity.

Major functions of the Advisory Committee:
- **Examine and report on the budget** submitted by the Secretary-General to the General Assembly and to advise the General Assembly concerning any administrative and budgetary matters referred to it.
- Examines, on behalf of the General Assembly, the administrative budgets of the specialised agencies and proposals for financial arrangements with such agencies; and
- Consider and report to the General Assembly on the auditors' reports on the accounts of the United Nations and of the specialised agencies.

Honey FPOs Programme

Context
- The Honey FPO Programme of National Agricultural Cooperative Marketing Federation of India Limited. (NAFED) inaugurated by Minister of Agriculture and Farmers' Welfare.

Beekeeping industry
- Beekeeping in India is highly predominant in the **unorganized sector** among the rural and tribal population.
- Despite having a huge potential of honey production in the country, the beekeeping industry is still **underdeveloped.**
- NAFED will address these issues by acting as an intermediary and filling up the gaps between the elements of the beekeeping supply chain and also ensure price remuneration to the beekeeping farmers.
- Through these Honey FPOs, NAFED will also work for promotion of beekeeping as an occupation for unemployed women and tribal populations and uplift their livelihood".
- Honey beekeeping will change the lifestyle of small and marginal farmers and help in achieving the goal of increasing farmer's income.

Farmers Producer Organisations (FPOs)
- It is a **Producer Organisation (PO) where the members are farmers** who manage their activities together in the organization to get better access to technology, input, finance and market for faster enhancement of their income.
- It helps in the collectivization of such small, marginal and landless farmers in order to give them the **collective strength to deal with such issues.**

Significance of FPOs:
- Nearly 86% of farmers are small and marginal with average land holdings in the country being less than 1.1 hectares.
- These small, marginal and landless farmers face tremendous challenges during agriculture production phase such as for access to technology, quality seed, fertilizers and pesticides including requisite finances.
- They also face tremendous challenges in marketing their produce due to lack of economic strength.
- FPOs help in the collectivization of such small, marginal and landless farmers in order to give them the collective strength to deal with such issues.

Government scheme
- The government has launched a new dedicated Central Sector Scheme titled **"Formation and Promotion of Farmer Producer Organizations (FPOs)"** with a clear strategy and committed resources to form and promote 10,000 new FPOs.

FPO scheme
- Promotion & Formation of FPOs is the first step for converting Krishi into Atmanirbhar Krishi.
- It is a **Central Sector Scheme for Formation & Promotion** of new 10,000 FPOs.
- Under the new FPO scheme, so far **National Level Project Management Advisory and Fund Sanctioning Committee (N-PMAFSC)** had allocated 2200 FPO clusters for 2020-21 to all Implementing agencies.
- National Agricultural Cooperative Marketing Federation of India Limited(**NAFED**) has been appointed as the 4th National

Implementing Agency other than SFAC, NABARD and NCDC for the creation of 10,000 FPOs by the Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW).

- NAFED has recently taken over the national level Federation of Indian FPOs and Aggregators (FIFA) with the <u>aim of creating sustainable small holder institutions to enhance collective capacities, shortening of agri produce value chains for equitable returns to all stakeholders and leveraging technology for enhanced transparency, scale and seamless agri. produce trading</u>.

Sweet revolution

- Sweet Revolution` is a strategic step to emphasize the **increase in honey production** in the state, which can be a major contributor to doubling the income of the farmers.
- With the increase in income, the production of crops will also increase by 15%.

Purpose of sweet revolution

- To make Jharkhand state in the category of developed states by 2022.
- Providing employment by connecting the farmers of the state with bee keeping.
- To increase agriculture and horticulture yield and income of farmers.
- To make the state the leading state in the field of honey production.
- Children free from malnutrition.
- Production of quality honey.

Index of Eight Core Industries

Context

- The Office of Economic Adviser, Department for Promotion of Industry and Internal Trade released Index of Eight Core Industries for the Month of October, 2020.
- The combined Index of Eight Core Industries stood at 124.2 in October,2020, which declined by 2.5 (provisional) per cent as compared to the Index of October, 2019.Its cumulative growth during April to October, 2020-21 has been(-) 13.0%.
- Monthly growth rates of Index of Eight Core Industries (Overall) is depicted in the graph:

What is IIP data?

- Index of Industrial Production **tracks manufacturing activity in different sectors of an economy.**
- The IIP number measures the industrial production for the period under review, **usually a month, as against the reference period.**
- IIP is a key economic indicator of the manufacturing sector of the economy.
- There is a lag of six weeks in the publication of the IIP index data after the reference month ends. IIP index is currently calculated using 2011-2012 as the base year.

IIP Index Components

- Electricity, crude oil, coal, cement, steel, refinery products, natural gas, and fertilisers are the eight core industries that comprise about **40 percent of the weight of items included in the Index of Industrial Production.**
- Mining, manufacturing, and electricity are the three broad sectors in which IIP constituents fall.

Who releases Index of Industrial Production or IIP data?

- In the case of Index of Industrial Production India, IIP data is **compiled and published by CSO every month.**
- CSO or Central Statistical Organisation operates under the **Ministry of Statistics and Programme Implementation (MoSPI)**. The IIP index data, once released, is also available on the PIB website.

Who uses IIP data?

- The factory production data (IIP) is used by various government agencies such as the Ministry of Finance, the Reserve Bank of India (RBI), private firms and analysts, among others for analytical purposes.
- The data is also used to compile the Gross Value Added (GVA) of the manufacturing sector in the Gross Domestic Product (GDP) on a quarterly basis.

IIP base year change

- The base year was changed to 2011-12 from 2004-05 in the year 2017.
- The earlier base years were 1937, 1946, 1951, 1956, 1960, 1970, 1980-81, 1993-94 and 2004-05.

Where is IIP data sourced from?

- The CSO uses secondary data to reach the monthly IIP number.

- The data is sourced from various agencies in different ministries or departments of the government.
- The **Department of Industrial Policy and Promotion (DIPP)** is the source for the major chunk of data for the calculation.

IIP vs ASI

- IIP is a monthly indicator, the **Annual Survey of Industries (ASI) is the prime source of long-term industrial statistics.**
- The ASI is used to track the health of the industrial activity in the economy over **a longer period.**
- The index is compiled out of a much larger sample of industries compared to IIP.

Libra

Context

- **Facebook's Libra cryptocurrency** is readying to launch as early as January.
- The Geneva-based Libra Association that will issue and govern Libra plans to launch a single digital coin backed by the dollar.
- Libra, unveiled by Facebook Inc last year, was relaunched in slimmed-down form after regulators and central banks across the world raised concerns it could upset financial stability and erode mainstream power over money.

What Is a Cryptocurrency?

- A cryptocurrency is a **new form of digital asset based on a network** that is distributed across a large number of computers.
- This **decentralized structure** allows them to exist outside the control of governments and central authorities.

- **Blockchains,** which are organizational methods for ensuring the integrity of transactional data, is an essential component of many cryptocurrencies.
- Many experts believe that blockchain and related technology will disrupt many industries, including finance and law.
- Cryptocurrencies **face criticism** for a number of reasons, including their use for illegal activities, exchange rate volatility, and vulnerabilities of the infrastructure underlying them. However, they also have been praised for their portability, divisibility, inflation resistance, and transparency.
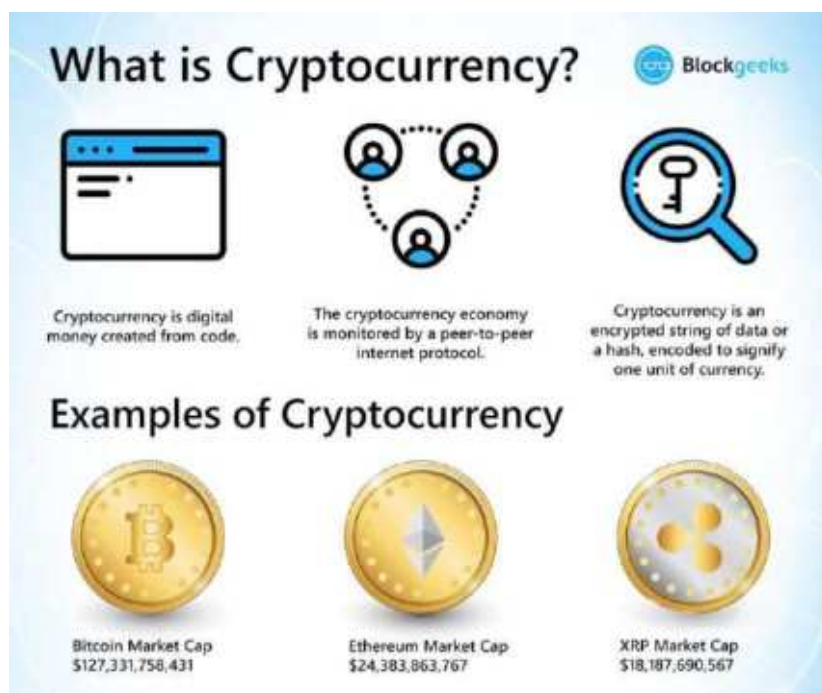
Compressed Bio Gas (CBG) plant in Karnataka

Context

- This plant will utilize 200 TPD of press mud and will be commissioned at the estimated cost of about 42 crores. This will generate about 10.2 TPD of CBG and also bio-manure.

Need

- Government is working to provide **cleaner and sustainable energy**.
- India is not a polluting country, but still being a responsible global leader has underlined India's commitment to sustainability and climate change mitigation. How can we achieve cleaner path in each activity

SATAT initiative

- It was launched in 2018 as part of the government vision to reduce dependence on fossil fuels and have an alternative source of clean fuel for transport.
- Over the last two years, it has grown into one of flagship programs of Ministry of Petroleum and Natural Gas.
- SATAT will establish an ecosystem for the production of Compressed Bio Gas (CBG) from various waste and biomass sources in the country leading to multiple benefits.
- Using agricultural and municipal wastes to produce gas under SATAT will reduce carbon emission and also fulfil Government's commitment in COP-21.
- It is also in line with the Swachh Bharat Mission of the Government. He exhorted the young entrepreneurs to invest in the initiative for creating a vibrant bio-gas system.
- Various supports offered to CBG plants like floor price guarantee of CBG produced for 10 years, inclusion of CBG in priority sector lending by the RBI, subsidy scheme and support by various state government w.r.t allotment of land etc. have set the

congenial ecosystem.

- Efforts being to move towards 'gas based economy' in India, Ministry has signed MoUs with leading private sector energy companies for establishing about 900 CBG plants and also with technology partners for facilitating technological support for the projects.
- With more number of private sector participation, the mission of achieving indigenous and sustainable production of clean fuel would be a game changer.
- The SATAT initiative intends to augment the domestic gas availability to domestic and industrial sectors, this initiative shall promote AatmaNirbhar Bharat Abhiyaan of the Government and promote self-reliance, reduce import bills of crude and also boost employment. He said that Karnataka, which is predominantly an agriculture-based state, will greatly benefit from such plants.

Mission Purvodaya

Context
- Mission Purvodaya will drive eastern India towards self-reliance and contribute to making of an Aatmanirbhar Bharat.

Mission Purvodaya
- Purvodaya-Accelerated Development of **Eastern Region** through an Integrated Steel hub, in line with Prime Minister's Vision for focused development of the Eastern States.
- The proposed Integrated Steel Hub, encompassing **Odisha, Jharkhand, Chhattisgarh, West Bengal and Northern Andhra Pradesh**, would serve as a torchbearer for socio-economic growth of Eastern India.
- The **objective** of this hub would be **to enable swift capacity addition and improve overall competitiveness of steel producers both in terms of cost and quality**.
- In addition to increased steel capacity, this hub would also help enhance best-in- class value addition capabilities. The Integrated Steel Hub would focus on 3 key elements:
- **Capacity addition** through easing the setup of greenfield steel plants
- Development of **steel clusters** near integrated steel plants as well as demand centres
- **Transformation of logistics and utilities infrastructure** which would change the socio-economic landscape in the East
- These elements would be supported through additional enablers such as ensured availability of raw materials, presence of supporting industries such as capital goods and well-established avenues for skill development.

PM-FME Scheme

Context
- Union Minister for Food Processing Industries inaugurated the capacity building component of the **Pradhan Mantri Formalisation of Micro food processing Enterprises scheme (PM-FME Scheme)**
- Under the PM-FME scheme, **capacity building** is an important component.
- The scheme envisages **imparting training** to food processing entrepreneurs, various groups, viz., SHGs / FPOs / Co-operatives, workers, and other stakeholders associated with the implementation of the scheme".
- The training of Master Trainers aims to benefit nearly 8 Lakhs beneficiaries from micro-enterprises including members of Farmer Producer Organizations, Self-Help Groups, Cooperatives, Tribal communities, and others.
- Under the PM-FME scheme, **states have identified the food products of districts**, keeping in view the availability of existing clusters and raw materials.

About the PM-FME Scheme
- Launched under the **Aatmanirbhar Bharat Abhiyan**, the Pradhan Mantri Formalisation of Micro food processing Enterprises (PM-FME) Scheme is a **centrally sponsored scheme**
- **Aims** to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector and provide support to Farmer Producer Organizations, Self Help Groups, and Producers Cooperatives along their entire value chain.
- With an outlay of **10,000 crore over a period of five years from 2020-21 to 2024-25**, the scheme envisions to directly assist the **2,00,000 micro food processing** units for providing financial, technical, and business support for upgradation of existing micro food processing enterprises.

SCIENCE & TECHNOLOGY

Tinnitus

Context
- New Research has found that tinnitus is being exacerbated by Covid-19 — and also by the measures against the infection.
- 40% of those displaying symptoms of Covid-19 simultaneously experience a worsening of their tinnitus.

About

- Tinnitus is a common condition that causes the perception of noise or ringing in the ears and head. It involves the sensation of hearing sound when no external sound is present.
- Tinnitus affects about 15 to 20 percent of people.
- Tinnitus isn't a condition itself — it's a symptom of an underlying condition, such as age-related hearing loss, ear injury or a circulatory system disorder.
- Tinnitus usually isn't a sign of something serious. Although it can worsen with age, for many people, tinnitus can improve with treatment.

Swarnajayanti Fellowship

Context

- A total of 21 scientists have been selected for the SwarnaJayanti fellowship.

About

- The Swarnajayanti Fellowship (SJ) is a research fellowship awarded annually by the Department of Science and Technology (India) for notable and outstanding research by young scientists.
- The Swarnajayanti Fellowships' scheme was instituted by Govt. of India to commemorate India's fiftieth year of Independence.
- It provides special assistance and support to a selected number of young scientists with a proven track record to enable them to pursue basic research in frontier areas of science and technology.

Guillain-Barre syndrome

Context

- In a rare complication, some patients infected with Covid-19 have been found suffering from Guillain Barre Syndrome (GBS). In India, such cases have been reported since August.

About

- Guillain-Barre syndrome is a rare disorder in our body's immune system attacks our nerves.
- The syndrome's first symptoms are a tingling or itching sensation in the skin, followed by muscle weakness, pain and numbness.
- These sensations can quickly spread, eventually paralyzing your whole body.

Link with COVID

- Here, the immune system, in an attempt to kill the coronavirus, accidentally starts attacking the peripheral nervous system.
- The peripheral nervous system is a network of nerves that lead from the brain and spinal cord to different parts of the body. Attacking them can affect limb functions.

PARAM SIDDHI-AI AND MIHIR

Context

- Two supercomputers from India — PARAM Siddhi-AI and Mihir — have made it to the TOP500 list of the world's most powerful supercomputers.

PARAM Siddhi-AI

- PARAM Siddhi-AI has an Rpeak capacity of 5.267 Petaflops.
- The system, jointly built by the Department of Science and Technology and Ministry of Electronics and IT under the National Supercomputing Mission.
- This Artificial Intelligence-based system's wide applications including education, space, agriculture, defence and national security, computational chemistry and astrophysics, drug design and preventive healthcare systems, as well as flood forecasting in major cities like Delhi, Mumbai, Chennai, Patna and Guwahati.

Mihir

- 'Mihir' is a 2.8 Petaflop supercomputer.
- It has helped improve India's forecasting skills.
- A petaflop is one thousand trillion, or one quadrillion, operations per second, and represents an extremely fast computing speed for a single machine. "Flop" stands for floating-point operations per second.

Dry swab-direct RT-PCR method

Context

- To ramp up COVID-19 testing, ICMR has approved dry swab-direct RT-PCR method.

Method

- Dry Swab-Direct RT-PCR method involves collecting and transporting the nasal swab in dry state.
- This makes the transportation and handling of the samples easy and less prone to spillage and spread of infection.

- Secondly, the step of RNA isolation from the sample is omitted and involves only simple processing of the sample followed by direct RT-PCR using the kit recommended by ICMR.
- Omitting the step of RNA isolation offers a huge benefit over the conventional method, as the RNA isolation is a major bottleneck in terms of time, cost and trained manpower.
- Given this, with the same resources and no additional cost more samples can be tested and can be easily scaled up at least 2-3 times immediately.

Chapare Virus

Context

- Chapare Virus can spread through human-to-human transmission- CDC(USA)

About

- Chapare hemorrhagic fever (CHHF) is a viral hemorrhagic fever caused by infection with Chapare virus. The Chapare virus is in the arena virus family.
- **Transmission:** either through direct or indirect contact with the saliva, urine, and droppings of infected rodents.
- S**ymptoms:** fever, headache, joint and muscle pain, pain behind the eyes, stomach pain, vomiting, diarrhea, bleeding gums, rash, irritability.
- There is currently no treatment for CHHF. Supportive therapy is important for recovery from and survival of CHHF.
- Improving rodent control in and around homes and buildings can help to reduce exposure to rodents that may be infected with arena viruses.

Duchenne Muscular Dystrophy

Context

- Sandeep Eswarappa, Assistant Professor Indian Institute of Science (IISc), Bengaluru has proposed to suppress the diseaseDuchenne Muscular Dystrophy-using genetic process that initiates these diseases.

About

- Duchenne muscular dystrophy is a genetic disorder characterized by the progressive loss of muscle.
- It is a multi-systemic condition, affecting many parts of the body, which results in deterioration of the skeletal, heart, and lung muscles.
- Duchenne is caused by a mutation in the gene that encodes for dystrophin, a protein that is essential to the proper functioning of our muscles.
- Without dystrophin, muscles are not able to function or repair themselves properly.
- Because the dystrophin gene is found on the X-chromosome, it primarily affects males, while females are typically carriers. However, some females can manifest varying ranges of physical symptoms of Duchenne and are therefore called "manifesting carriers".
- As of now, there is no known cure for duchenne muscular dystrophy. Treatments usually aim to control symptoms to improve quality of life.

ENVIRONMENT

India Climate Change Knowledge Portal

Context

- Minister of Environment, Forest and Climate Change launched the India Climate Change Knowledge Portal.
- It will be a **single-point information resource** that provides **information on the different climate initiatives taken by various Line Ministries** enabling users to access the status on these initiatives.
- With regard to climate actions after the Paris Agreement, India has practically achieved its pre-2020 climate action targets.
- India is not responsible for climate change but it is taking responsible action to mitigate the challenge.

New species of burrowing frog

Context

- Sphaerotheca Bengaluru is being named after the city to highlight the lacunae in documentation of amphibians from non-forested areas and to restore frog habitats in Bengaluru.
- The new species was described based "on the morphological differences and molecular approach with the known species of the borrowing frogs.

Why their survival matters?

- Amphibians, like frogs, toads and salamanders, are known as **indicator species**.

- They are **extremely sensitive** to changes in the environment and can give scientists **valuable insight into how an ecosystem is functioning**.
- And because amphibians are **both predators and prey**, many other animals are affected by them.

New species of gecko found

Context

A new species of lizard, the **smallest known Indian gekkonid**, has been discovered in the Eastern Ghats.

- In India, 45 diverse species of Cnemaspis have been found, of which 34 are from the Western Ghats.
- The newly discovered dwarf gecko - Cnemaspis avasabinae is the twelfth species to be discovered outside the Western Ghats and also the first species reported from the Velikonda Range in Andhra Pradesh.

Roridomyces phyllostachydis

Context

- A mushroom documentation project in the forests of Northeast India led to a new discovery: a bioluminescent — or light emitting — variety of mushroom.
- The new species named Roridomyces phyllostachydis was first sighted near a stream in Meghalaya's East Khasi Hills district and later in West Jaintia Hills district.
- It is now one among the 97 known species of bioluminescent fungi in the world.

What are bioluminescent fungi and why do they glow?

- Bioluminescence is the **property of a living organism to produce and emit light**.
- **Animals, plants, fungi and bacteria** show bioluminescence.
- Bioluminescent organisms are usually found in the ocean environments, but they are also found on terrestrial environments.
- The colour of the light emitted by the organism depends on their **chemical properties**.
- In the case of fungi, the luminescence comes from the enzyme, **luciferase**.
- The [green] light emits when luciferans is catalysed by the enzyme luciferase, in the presence of oxygen.
- Bioluminescence **attracts insects**, which helps **fungi in dispersing spores**, it may also be a **mechanism for the organism to protect itself from frugivorous** (or fruit-eating) animals.

Is the Roridomyces phyllostachydis unique in any way?

- The new species was important because it was the first mushroom in the Roridomyces genus to be found in India.
- However, its uniqueness lay in the fact that it was the **only member in its genus to have light emitting from its stipe or stalk**.

International Cherry Blossom Festival

Context

- India International Cherry Blossom Festival, the calendar event of Meghalaya, which attracts record number of tourists annually in Shillong, has been cancelled this year in the wake of COVID-19 pandemic.
- The capital, Shillong hosts the **only Cherry Blossoms festival** in India.
- These beautiful flowers can be spotted across Meghalaya during this time of the year.
- Also known as **Prunus Cerasoides,** the cherry blossoms are considered a gift from the Himalayas. They usually grow across the **east and west Khasi hills.**
- Apart from Shillong, which is a sought-out destination to see the flowers bloom in India, Japan is one of the famous destinations to witness cherry blossoms. The flowers bloom there in the spring.

- After Japan, South Korea and Paris are also famous for their cherry blossom season.

Desalination plants

Context

- Maharashtra government announced setting up of a desalination plant in Mumbai, becoming the fourth state in the country to experiment with the idea.
- Desalination is seen as one possible answer to **stave off water crisis.**

What are desalination plants?

- A desalination plant turns salt water into water that is fit to drink.
- The most commonly used technology used for the process is **reverse osmosis** where an external pressure is applied to push solvents from an area of high-solute concentration to an area of low-solute concentration through a membrane.
- The **microscopic pores in the membranes** allow water molecules through but **leave salt and most other impurities behind**, releasing clean water from the other side.
- These plants are mostly set up in areas that have access to sea water.

How widely is this technology used in India?

- Desalination has largely been limited to affluent countries in the **Middle East**.
- In India, **Tamil Nadu** has been the pioneer in using this technology, setting up two desalination plants near Chennai in 2010 and then 2013.
- The other states that have proposed these plants are Gujarat and Andhra Pradesh.

Is it ecologically safe?

- Due to the **high cost** of setting up and running a desalination plant, desalination is an **expensive way of generating drinking water** as it requires a **high amount of energy**.
- The other problem is the **disposal of the byproduct** highly concentrated brine of the desalination process that can severely damage the local ecology.

India's first green energy convergence project

Context

- India's first convergence project to generate green energy for rural and agriculture consumption is set to come up in Goa.
- Energy Efficiency Services Ltd (EESL), a joint venture of PSUs under the ministry of power, and Goa government signed a memorandum of understanding (MoU) to discuss the rolling out of the affordable clean power project.
- The project is expected to **accelerate the usage of renewable energy sources in the country**.
- In Goa, EESL will install solar projects in a first of its kind large scale programme where vacant/unused land provided by village panchayats/electricity board will be utilised.
- Goa has no power plant of its own. It gets around 550MW from the central grid.

New species of vine snakes discovered

Context

- A team of researchers from the Centre for Ecological Sciences (CES), Indian Institute of Science (IISc), after extensive sampling across peninsular India, have discovered new species of vine snakes in the region.
- **Vine snakes** are known to be among the **most common snakes in peninsular India, found even in many peri-urban areas wherever there is some greenery, and in the Western Ghats.**
- **New species of vine snakes discovered**
- <u>**Asian vine snakes**</u>, distributed throughout the continent, belong to the genus Ahaetulla and the recently described Proahaetulla.
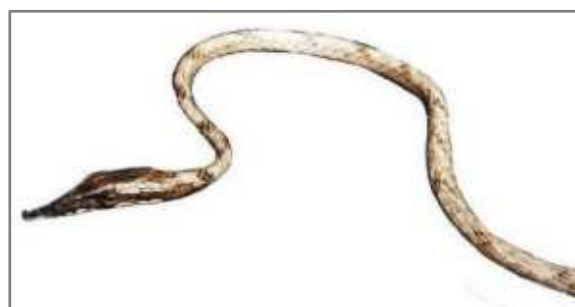
Massive marine protection zone

Context

- Tristan da Cunha, an island with 245 permanent residents, is creating a **marine protection zone** to safeguard endangered rockhopper penguins, yellow-nosed albatross and other wildlife in an area of the **South Atlantic** three times the size of the United Kingdom.
- The government of the British overseas territory banned **fishing and other "extractive activities"** from 627,247 square kilometers of ocean around Tristan da Cunha and the archipelago's three other major islands.
- The sanctuary will be the **biggest "no-take zone"** in the Atlantic Ocean and the fourth biggest anywhere in the world, protecting fish that live in the waters and tens of millions of seabirds that feed on them.

- The protection zone will become part of the **U.K.'s Blue Belt Program**, which is providing 27 million pounds ($35.5 million) to **promote marine conservation in the country's overseas** territories.
- The initiative has now protected 11.1 million square kilometers of marine environment, or 1% of the world's oceans
- The waters around Tristan da Cunha serve as a **feeding ground for the critically endangered Tristan albatross and endangered yellow-nosed albatross.**
- It would help Tristan da Cunha protect its waters with technology that uses real-time data to evaluate ocean conditions and human activity such as fishing.

Ramsar sites

Context

- The **Lonar lake in Maharashtra** and **Sur Sarovar**, also known as **Keetham lake, in Agra**, have been added to the list of recognised Ramsar sites.
- India has **41 wetlands**, the **highest in South Asia**, with two more added to the list of recognised sites of international importance under the treaty of Ramsar Convention.
- Recently, **Kabartal in Bihar's Begusarai** district was recognised as a wetland of international importance, the first such wetland in the State, under the Ramsar Convention.
- The **Asan Conservation Reserve in Dehradun, the first wetland from Uttarakhand** to be recognised by Ramsar convention, was added to the list in October this year.

Lonar Lake

- It is also known as Lonar crater.
- It is a notified **National Geo-heritage Monument**, saline, soda lake, located at Lonar in Buldhana district, Maharashtra, India.
- Lonar Lake was **created by an asteroid collision** with earth impact during the Pleistocene Epoch.
- It is one of the four known, hyper-velocity, impact craters in basaltic rock anywhere on Earth.
- Lonar Crater sits inside the **Deccan Plateau** – a massive plain of volcanic basalt rock created by eruptions some 65 million years ago.
- Two small streams, named Purna and Penganga, drain into the lake.

Sur Sarovar

- It is also known as **Keetham Lake**, is a **human-made reservoir**.
- It was originally created to supply water to the city of Agra in summer, the wetland soon became an important and rich ecosystem.
- The Site's patchwork of different habitat types provides refuge to resident and migratory birds, and more than 60 species of fish.
- Threatened species include the **vulnerable greater spotted eagle** (Clanga clanga), sarus crane (Grus antigone) and catfish Wallago attu.
- The Site is important for bird species, which migrate on the **Central Asian flyway**, with over 30,000 waterbirds known to visit the reservoir annually.
- Over **1% of the South Asian regional population of the greylag goose** (Anser anser) is present.
- Unsustainable tourism, invasive species, and household sewage and urban wastewater present significant threats to the Site.

Ramsar Convention

- Ramsar Convention on Wetlands is an **intergovernmental treaty** adopted on February 2, 1971 in the Iranian city of Ramsar, on the southern shore of the Caspian Sea.
- The name of the Convention is usually written "**Convention on Wetlands''**.
- The Convention on Wetlands came into force for India on February 1, 1982.
- Those wetlands which are of international importance are declared as Ramsar sites.

Ramsar sites in India

Sl. No.	Name of Site	State Location
1	Asthamudi Wetland	Kerala
2	Beas Conservation Reserve	Punjab
3	Bhitarkanika Mangroves	Orissa
4	Bhoj Wetlands	Madhya Pradesh
5	Chandertal Wetland	Himachal Pradesh
6	Chilka Lake	Orissa
7	Deepor Beel	Assam
8	East Kolkata Wetlands	West Bengal
9	Harike Lake	Punjab
10	Hokera Wetland	Jammu and Kashmir
11	Kanjli Lake	Punjab
12	Keoladeo Ghana NP	Rajasthan
13	Keshopur-Miani Community Reserve	Punjab
14	Kolleru Lake	Andhra Pradesh
15	Loktak Lake	Manipur
16	Nalsarovar Bird Sanctuary	Gujarat
17	Nandur Madhameshwar	Maharashtra
18	Nangal Wildlife Sanctuary	Punjab
19	Nawabganj Bird Sanctuary	Uttar Pradesh
20	Parvati Agra Bird Sanctuary	Uttar Pradesh
21	Point Calimere Wildlife and Bird Sanctuary	Tamil Nadu
22	Pong Dam Lake	Himachal Pradesh
23	Renuka Wetland	Himachal Pradesh
24	Ropar Lake	Punjab
25	Rudrasagar Lake	Tripura
26	Saman Bird Sanctuary	Uttar Pradesh
27	Samaspur Bird Sanctuary	Uttar Pradesh
28	Sambhar Lake	Rajasthan
29	Sandi Bird Sanctuary	Uttar Pradesh
30	Sarsai Nawar Jheel	Uttar Pradesh
31	Sasthamkotta Lake	Kerala
32	Sunderbans Wetland	West Bengal
33	Surinsar-Mansar Lakes	Jammu and Kashmir
34	Tsomoriri Lake	Jammu and Kashmir
35	Upper Ganga River (Brijghat to Narora Stretch)	Uttar Pradesh
36	Vembanad Kol Wetland	Kerala
37	Wular Lake	Jammu & Kashmir

SECURITY

SITMEX

Context
- India, Singapore and Thailand concluded their trilateral naval exercise SITMEX-20. This is the second edition of SITMEX.

Hosted by
- The Republic of Singapore Navy, the exercise was held in the Andaman Sea.
- This represents a growing number of naval engagements and willingness of regional navies to look to India as a maritime partner in dealing with a rising China.
- Indian Prime Minister announced this trilateral exercise at his keynote address at the 2018 Shangri La Dialogue in Singapore.

Goals

- To strengthen "mutual interoperability" and to understand and assimilate "best practices" between the three navies.
- The military exercises with Singapore and Thailand also demonstrate the increasingly strategic nature of engagements that India has developed with the countries in Southeast Asia.

Significance

- **Strengthen mutual confidence and develop common understanding** and procedures towards enhancing the overall maritime security in the region.

Army Aviation Corps

Context

- The Army Aviation Corps (AAC), the youngest Corps of the Indian Army, celebrated its 35th Corps Day on November 1.

The roots of Army Aviation Corps

- The origin of the AAC can be traced back to the raising of the Army Aviation wing of the Royal Air Force in India in 1942, and the subsequent formation of the first Indian Air Observation Post in August 1947.
- The Corps was raised as a separate formation on November 1 in 1986.
- They have significant role in modern day battlefield and counter insurgency-terrorism operations.

Role of AAC

- The main roles played by the AAC are that of reconnaissance, observation, casualty evacuation, essential load drops, combat search and rescue, thus adding an invaluable air dimension to the Army's capabilities.
- The AAC helicopters also participate in Humanitarian Aid and Disaster Relief (HADR) operations in peace times.

QRSAM

Context

- The Defence Research and Development Organisation's (DRDO) QUICK-REACTION SURFACE-TO-AIR MISSILE (QRSAM) system shot down an aerial target from the Integrated Test Range at Chandipur off the Odisha coast.

About QRSAM

- It is a missile system developed by the **Defence Research and Development Organisation (DRDO)** in association with **Bharat Electronics Limited and Bharat Dynamics Limited** for the Indian Army.
- This missile is an **all-weather, all-terrain surface-to-air missile** equipped with electronic counter measures against jamming by aircraft radars.
- The missile can be mounted on a truck and is stored in a canister.
- QRSAM uses **solid-fuel propellant** and has a **range of 25–30 km**.
- The **single-staged missile** utilized by the system is propelled using solid propellants.
- The missile is equipped with a midcourse **inertial navigation system** with a two-way data link and a DRDO-developed terminal active seeker.
- The system has the capability to **search and track targets while moving**.
- QRSAM is a **compact weapon system and is mobile**.
- It has a fully automated Command and Control System.

1. Gross national product (GNP) is the GDP of the country added with its Income from Abroad. Which of the following segment are not included under 'Income from Abroad'?

1) Private remittance
2) Interest on external loans
3) External grants

a) 1 only b) 1 and 2 only
c) 1, 2 and 3 d) None of the above

2. Which of the following statement is/are correct about the Environmental Impact Assessment (EIA)?

1) EIA 2006 - complete report and summary must be in English only
2) EIA 2020- summary must be in regional language and English, complete report only in regional language

Correct statement is
a) 1 only b) 2 only
c) both 1 & 2 d) Neither 1 nor 2

3. Consider the following statement regarding the Model Code of Conduct (MCC)

1) First time all political parties agreed for MCC in 1968
2) Election commission first time used MCC effectively in the year 2002.
3) MCC is complete rule only for the political parties and not for the candidates.

Which of the above statements is/are not correct?
a) 1 only b) 2 and 3 only
c) 1 and 3 d) 3 only

4. Consider the following statements

1) Chandernagore was former enclave of British India.
2) 15th state of India, Haryana was formed in 1966.

Which of the following statements given above is/are correct?
a) 1 only b) 2 only
c) both 1 & 2 d) Neither 1 nor 2

5. Consider the following statement regarding Visvesvaraya

1. India's first planning credit goes to Visvesvaraya
2. He was the Ex. Diwan of Hyderabad state
3. His book name was 'The planning Economy of India'.

Which of the following statements given above is/are not correct?
a) 1 only b) 1 and 2 only
c) 2 only d) 3 only

6. Consider the following statements about e-GOPALA app

1. This app helps farmer in selling milk online.
2. This app also guides farmers about animal nutrition and animal treatment.
3. Through this app, only milch cattle can buy and sell.

Which of the following statements is/are correct?
a) Only 1 b) Only 1 and 2
c) Only 2 d) Only 2and 3

7. Consider the following statements about Start-Up Village Entrepreneurship Programme (SVEP)

1) SVEP is the sub-scheme of Deendayal Antyodaya Yojana-National Rural Livelihood Mission.
2) Scheme was stated by the Labour Ministry.
3) Partner of SVEP scheme is TRIFED.

Which of the following statements is/are correct?
a) Only 1 b) Only 1 and 2
c) Only 2 and 3 d) Only 3

8. Consider the followings statements about Hybrid Data Warfare

1) Under this warfare, by using of military tool to damage, subvert, or influence the enemy countries Data.
2) This system was first time used in Vietnam War.
3) Russia also used this system against Crimea in 2014.

Which of the following statements given above is correct?
a) Only 1 and 2 b) Only 2
c) All of the above d) None of the above

9. Consider the following statement about Enhanced Version of Pinaka Mk-1 Missile-

1) It is an alternative to the Multi Barrel Rocket Launcher systems of American make called the 'Grad'.
2) It was first used successfully in the battlefield during the 1999 Kargil War.
3) The Pinaka, a multi-barrel rocket-launcher (MBRL) system named after Shiva's bow, can fire a salvo of 10 rockets over a period of 60 second.

Which of the following statement/s is/are correct?
a) Only 2 b) Only 1 and 2
c) Only 1 d) 1, 2 and 3

10. Consider the following statements about Luhri Stage-I Hydro Electric Project.

1) It is located on River Sutlej in Himachal Pradesh.
2) This project will generate 758.20 million units of electricity annually, which will help in providing grid stability and improve the power supply position.
3) It will be contributing to an improvement in air quality and less air pollution.

Which of the above statement/s is/are correct?
a) Only 1 and 3 b) Only 2 and 3
c) Only 3 d) All of the Above

11. Consider the following statement regarding Food Fortification.

1) It is defined as the practice of deliberately increasing the content of essential micronutrients so as to improve the nutritional quality of the food supply and

to provide a public health benefit with minimal risk to health

2) In October 2016, FSSAI operationalized the Food Safety and Standards (Fortification of Foods) Regulations, 2016 for fortifying staples namely Wheat Flour, Rice and Milk only.

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

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

12. Consider the following statements about Philips curve

1) It represents inverse relationship between Inflation and employment.

2) Natural Rate is defined as situation when the unemployment rate that occurs at full employment when economy is producing at potential output.

3) If monitory policy tried to hold unemployment below its natural rate, inflation will be at lower level.

Which of the above statements is/are correct?

a) Only 1   b) Only 1 and 3
c) Only 2   d) Only 2and 3

13. Consider the following statements about Article 323 A.

1) This article was added by 42nd constitutional amendment along with article 323 B

2) Article 323 A empower parliament to provide for establishment of Administrative tribunal relating to recruitment and condition of services of person appointed to public services of the centre, states etc.

3) This article also empower parliament to take out the case relating to service matters from civil courts and High courts

Which of the above statements is/are correct?

a) Only 1 and 3   b) Only 2 and 3
c) Only 1 and 3   d) 1, 2 and 3

14. Which of the following are India's Intended Nationally Determined Contributions (INDCs) at the Paris climate deal?

1. India's greenhouse gas emission intensity of its GDP will be reduced by 33-35 percent below 2005 levels by 2030.

2. 40 percent of India's power capacity would be based on non-fossil fuel sources.

3. India will create an additional 'carbon sink' of 2.5 to 3 billion tons of CO_2 equivalent through additional forest and tree cover by 2030.

Which of the above statements are true?

a) 1 and 2 only   b) 2 only
c) 1 and 3 only   d) All of the above

15. Consider the following statements about effects of Demonetisation in India:

1. Cash to GDP ratio has increased since demonetisation.

2. Number of Digital transactions have increased tremendously.

Which of the above statements are true?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

16. Consider the following statements about Contempt of Court in India:

1. Approval of the Attorney General is essential for initiating contempt of court proceedings against any individual.

2. Article 129 empowers the Supreme Court of India to punish for its contempt.

Which of the above statements are true?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

17. Consider the following statements about recession and depression.

1. A recession is a period of decline in total output, income, employment and trade with 2 consecutive quarters of negative growth.

2. Depression is a prolonged period of economic recession marked by a significant decline in income and employment.

Which of the above statements are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

18. Consider the following statements about Foreign Contribution (Regulation) Act (FCRA).

1. Foreign funding of voluntary organizations in India is regulated under FCRA act and is implemented by the Ministry of Finance

2. As per the FCRA, members of legislatures, political parties, government officials, judges and media persons are prohibited from receiving any foreign contribution.

Which of the above statements is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

19. Consider the following statements about Regional Comprehensive Economic Partnership (RCEP).

1) It is a free trade agreement originally devised to consist of 10 ASEAN countries and their 5 Free trade partners.

2) India has refused to join RCEP.

Which of the above statements is/are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

20. Consider the following statements about Intensified Mission Indradhanush (IMI) 2.0.

1) The IMI covers vaccines for diphtheria, whooping cough, tetanus, poliomyelitis, tuberculosis, measles, Meningitis and Hepatitis B

2) It is launched to focus on North eastern states of India.

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

21. Which of the following were features of Permanent Settlement

1. Zamindars were hitherto only collectors of revenue and had no ownership rights over land.

2. The Zamindars needed to pay a fixed amount of land revenue on a fixed date every year.

3. Zamindars were allowed to keep force and maintain order in their districts.

Select the correct answer from the codes given below

a) 1 and 3 only   b) 2 and 3 only

c) 1, 2 and 3   d) 1 and 2 only

22. Consider the following statements about trade unions in India:

1. The credit for the first association of Indian workers is generally given to the Bombay Mill-Hands Association founded by N.M. Lokhande in 1890.

2. Indian Trade Unions Act, 1926 seeks to protect them from civil or criminal prosecution so that they could carry on their legitimate activities for the benefit of the working class.

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

23. Consider the following statements about Forest Rights Act, 2006.

1. The claimant must be a member of the Scheduled Tribes scheduled in that area or must have been residing in the forest for 75 years.

2. It does not confer right to use or own minor forest produce.

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

24. Consider the following statements about Nutrient Based Subsidy scheme (NBS).

1. MRP of P&K fertilizers has been left open and fertilizer manufacturers/marketers are allowed to fix the MRP at reasonable rates.

2. Urea is not covered under it.

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

25. Consider the following statements about Foreign direct investment (FDI) in India.

1. Mauritius is the largest source of FDI in India

2. Under the revised FDI Rules Companies in any country that shares a border with India will have to approach the government for investing in India and not go via the automatic route.

Which of the above statements are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

26. Consider the following statements about Consumer Price Index (CPI) and Wholesale Price Index (WPI)

1. Nodal Office for Compilation and release of WPI is the Office of Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry.

2. CPI is also used as deflators in the National Accounts

Which of the above statements are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

27. With reference to administration in Chalukya dynasty, consider the following statements

1. The Chalukya administration was highly decentralized with unmatched village autonomy

2. The Chalukyas were a great maritime power and had 100 ships in its navy along with a small standing army.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

28. Consider the following statements about Bru refugees.

1. The Brus, also referred to as the Reangs, are spread across the north-eastern states of Tripura and Mizoram only.

2. In Tripura, they are recognised as a Particularly Vulnerable Tribal Group (PVTG).

Which of the above statements are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

29. Consider the following statements about Central Bureau of Investigation (CBI)

1. It derives its powers from Delhi Special Police Establishment (DSPE) Act, 1946.

2. It can not take up investigation in cases relating to public servants, under the control of the State Government ,except with prior permission of the State.

Which of the above statements are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

30. Consider the following statements about Quick Reaction Surface to Air Missile (QRSAM)

1. It is developed by the Defence Research and Development Organisation (DRDO).
2. It uses liquid fuel propellant
3. It has a strike range of 25-30 km with capability of hitting multiple targets.

Which of the above statements are correct?

a) 1 and 2 only   b) 2 and 3 only
c) 1 and 3 only   d) All of the above

31. Consider the following statements about Article 32 of the Indian Constitution.

1. Supreme Court is empowered to issue writs for the enforcement of fundamental rights under Article 32.
2. Article 32 also empowers President to authorize any other court to issue these writs.

Which of the above statements are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

32. Consider the following statements:

1. As earth rotates from west to east, places in the east see the sun earlier than those in the west.
2. The revolution of the earth alone causes the variation in the length of the day and night at different times of the year.

Which of the above statements is / are correct:

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

33. Consider the following statements about the All India Services (AIS)

1. They are created under the All India Services Act, 1951.
2. AIS can be created only after Rajya Sabha passes a resolution with special majority for it.

Which of the above statements are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

34. Consider the following statements about FATF

1. The Financial Action Task Force (FATF) is an inter-governmental body established in 1989 on the initiative of the G20.
2. Countries known as Non-Cooperative Countries or Territories (NCCTs) are put in the FATF greylist.

Which of the above statements are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

35. Consider the following statements about Deposit Insurance in India

1. Deposit Insurance and Credit Guarantee Corporation (DICGC) provides a deposit insurance cover of a maximum Rs. 5 lakh per account.

2. Deposit insurance facility is not available for Non Banking Finance Companies.

Which of the above statements are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

36. Consider the following statements about National Population Register (NPR).

1. It is a list of "citizens of the country".
2. The NPR is being prepared under provisions of the Citizenship Act 1955

Which of the above statements are correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

37. Consider the following statements about Linguistic minorities in Indian constitution.

1. Under Article 30, all minorities shall have the right to establish and administer educational institutions of their choice.
2. Under Article 350-B, a Special Officer for Linguistic Minorities is appointed by the Governor of a state.

Which of the above statements is correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

38. Consider the following statements about the National Digital Health Mission.

1. It comes under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana.
2. Under the Mission, every Indian will get a Health ID card that will store all medical details of the person including prescriptions, treatment, diagnostic reports and discharge summaries.

Which of the above statements is correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

39. Which of the following statements about Foreign Direct Investment (FDI) and Foreign portfolio investment (FPI).

1. FPI is often referred to as "hot money" because of its tendency to flee at the first signs of trouble in an economy.
2. FDI is not just the inflow of money, but also the inflow of technology, knowledge, skills and expertise/know-how.

Which of the above statements is correct?

a) 1 only   b) 2 only
c) both 1 & 2   d) Neither 1 nor 2

40. The Insolvency and Bankruptcy Board of India (IBBI) has amended the regulations for liquidation under the Insolvency and Bankruptcy Code (IBC). Which of the following are part of it?

1. Any or all assets of the company under liquidation, which is facing some dispute or is involved in some fraudulent transaction, can be sold by the liquidator.

2. It has allowed certain creditors, who do not want to wait for the liquidation process to be over, to exit the process by assigning or transferring the debt due to them, to other creditors of the company.

Which of the above statements is correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

41. In reference to the drafting of the Constitution of India, consider the following statements:

1. The system of Procedure established by law has been borrowed from Irish Constitution.

2. The system of Amendment has been borrowed from the South African constitution.

3. The Fundamental Duties have been borrowed from Japanese constitution.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) 3 only   d) 1, 2 & 3 only

42. In reference to the power of Union with respect to creation of States, consider the following statements:

1. A new State established under Article 2 of the constitution.

2. A new State formed out of existing States must be created under Article 3.

3. State legislature can give their views within 14 days from the date when President referred to them, the bill under Article 3.

Which of the statements given above is/are correct?

a) 1 only   b) 1 and 2 only

c) 3 only   d) 1, 2 and 3

43. In reference to the modes of acquiring Citizenship, consider the following statements:

1. Persons who registered themselves with diplomatic or consular representative of India became Indian citizens at the time of independence.

2. Presently only those persons who are married to Indian citizens can register with diplomatic or consular representative of India for Indian citizenship.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

44. In reference to the Fundamental Rights, consider the following statements:

1. Right to freedom of movement can be restricted on grounds of security and integrity of India, public order, health and morality.

2. Right provided under Article 25 rights are subject to public order, morality, health and other provisions of part III of the Constitution of India.

Which of the statements given above is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

45. Which of the following are India's Intended Nationally Determined Contributions (INDCs) at the Paris climate deal?

1. India's greenhouse gas emission intensity of its GDP will be reduced by 33-35 percent below 2005 levels by 2030.

2. 40 percent of India's power capacity would be based on non-fossil fuel sources.

3. India will create an additional 'carbon sink' of 2.5 to 3 billion tons of CO_2 equivalent through additional forest and tree cover by 2030.

Which of the above statements are true?

a) 1 and 2 only   b) 2 only

c) 1 and 3 only   d) All of the above

46. Consider the following statements about state public service commission (SPSC)

1. The appointment and removal of the Chairman of SPSC is done by the governor of the state.

2. The matter of strength of the commission comes under the discretion of the governor

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

47. Consider the following statements with respect to the Commissioner for Linguistic Minorities.

1. He/she is appointed by the President of India.

2. At the Central level, the Commissioner falls under the Ministry of Home Affairs.

Which of the above statements is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

48. Which of the following powers Prime Minister enjoys as the head of the Union council of ministers:

1. He can bring about the collapse of the council of ministers by resigning from office.

2. He recommends persons who can be appointed as ministers by the president.

Which of the above statements is / are correct :

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

49. Consider the following about the Ordinance making powers of the President.

1. An ordinance can be issued to amend the constitution of India

2. An ordinance can be issued when both the houses of parliament are in session.

Which of the statements is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

50. Which of the following are reasons behind Antimicrobial Resistance (AMR)?

1. Some bacteria due to the presence of resistance genes are intrinsically resistant and therefore survive on being exposed to antibiotics.

2. Antibiotics which are critical to human health are commonly used for growth promotion in poultry.

Which of the statements is/are correct?

a) 1 only   b) 2 only

c) both 1 & 2   d) Neither 1 nor 2

ANSWERS

1. d	11. a	21. b	31. a	41. b
2. d	12. c	22. c	32. a	42. b
3. b	13. d	23. a	33. c	43. d
4. d	14. d	24. c	34. d	44. b
5. c	15. c	25. b	35. c	45. d
6. c	16. b	26. c	36. b	46. b
7. a	17. c	27. c	37. a	47. a
8. d	18. b	28. b	38. c	48. c
9. a	19. b	29. c	39. c	49. d
10. d	20. a	30. c	40. c	50. c

We are happy to announce that students of **APTI PLUS** family have cleared the **IAS 2019**

NUPUR GOEL RANK 11

Congratulations everyone!!!