

Abode for Affordable Success

THIRD WEEK MAY 2023
CURRENT AFFAIRS

Table of Contents

General Studies I: Art & Culture

JALLIKATTU	1
1. Context	1
2. Background.....	1
3. What is Jallikattu?.....	1
4. Pongal and the culture of Jallikattu	2
5. Supreme Court's 2014 Verdict	2
6. Issues with the Sport	3
7. Supreme Court View on Jallikattu	3
8. The inescapable cultural context	3
RAMANUJACHARYA	4
CLASSICAL DANCES OF INDIA.....	6
INTACH.....	15
1. Context	15
2. Background.....	15
3. History	16
4. Indian National Trust for Art and Culture Heritage (INTACH).....	16

General Studies I: World Geography

AVERAGE MONSOON RAINFALL	17
1. Context	17
2. Trends of Rainfall in India	17
3. What is LPA?	17
4. When is the LPA revised?.....	18
5. How much rainfall does India receive in a year?	18
6. Why it has been Downgraded?.....	18

General Studies II: International relations

G7- HIROSHIMA SUMMIT	19
1. Context	19
2. About G-7 Summit	19
3. Guests for Hiroshima summit	20
4. Reasons for selecting Hiroshima	20
5. Major Issues.....	21
6. Japan and South Korea.....	21
INDO PACIFIC ECONOMIC FRAMEWORK	21
CHINA-CANADA	26
1. Context	26
2. Background.....	27
3. What is Persona non Grata?	27
4. Vienna Convention	28
5. Provisions of the Vienna Convention	28
6. What has led to strained CanadaChina ties?	28
ARAB LEAGUE	29
1. Context	29
2. Key points.....	29
3. Syria's readmission	30
4. About Arab League.....	30
5. Reasons for reinstating Syria's membership	30
MARITIME RESCUE COORDINATION CENTRE.....	32
1. Context	32
2. Key points.....	32
3. Enhancing Sri Lanka's Capacity	32
4. SAGAR push	33
5. Sri Lanka Clarification.....	34
6. Excerpts from the clarification	34

General Studies II: Governance

SIKKIM'S INTEGRATION WITH INDIA	35
DOTTED LANDS	39
1. Context	39
2. About Dotted lands	40
3. Ownership disputes	40
5. Reasons for Removing Dotted Lands	41
INDIAN SPACE POLICY 2023.....	42
NATIONAL TECHNOLOGY DAY	45
1. Context	45
2. Key points.....	45
3. The Culture of Science.....	45
4. After Pokhran	46
5. Challenges	46

General Studies II: Polity

FUNDAMENTAL DUTIES	47
1. Context	47
2. Background.....	48
3. List of Fundamental Duties	48
4. Important Feature of Fundamental Duties	49
5. Swaran Singh Committee recommendations	49
LAWS ON POLYGAMY	49
1. Context	49
2. Practice of Polygamy	50
3. The Second marriage	50
4. Under Hindu Law	51
5. Under Muslim law	52
6. Prevalence of polygamy.....	52

General Studies III: Economy

GREEN DEPOSITS.....	52
1. Context	53
2. What are Green Deposits?.....	53
3. Regulatory framework of RBI.....	53
4. What is the Green Finance Ecosystem?.....	54
5. What is the Need?	54
6. Indian Scenario	54
LIBERALISED REMITTANCE SCHEME	55
LIBOR.....	58
1. Context	58
3. Controversy	59
4. Alternative place	59
5. Response to the Regime Change	59
GOVERNMENT SECURITY AND BONDS	60
1. Context	60
2. About Government Securities	60
3. Risk of Purchasing foreign government bonds	60
4. Controlling the money supply	61
5. Pros and Cons of Buying Government Securities	61
6.2. T-Bills.....	62
6.3. Treasury Notes.....	62
6.4. Treasury Bonds.....	62
AADHAAR ENABLED PAYMENT SYSTEM (AePS).....	63
1. Context	63
2. What is Aadhaar enabled Payment System (AePS)?	63
3. Are AePS enabled by default?	63
4. Advantages associated with AePS	64

5. How is biometric information leaked?	64
6. How do you secure your Aadhaar biometric information?	65
7. What can be done in case of a financial scam using Aadhaar?	65

ECONOMICS OF CLIMATE CHANGE65

1. Context	65
2. Global Climate Risk Index.....	66
3. The evidence of climate change	66
4. RBI research on annual rainfall.....	66
5. The macroeconomic impact of climate change on India.....	67
6. Categories of climate change	68
7. Policy insights.....	68

GST COMPLIANCE MEASURES69

1. Context	69
2. What is the automated return scrutiny model?	69
3. What are the changes for e-invoicing?	69
4. What does e-invoicing envisage?	70
5. Goods and Service Tax	70

General Studies III: Science & Technology

ASTR71

1. Context	71
2. The origins of ASTR.....	71
3. Working on ASTR.....	72
4. What happens next.....	73

LIQUOR.....73

1. Context	73
2. What is the alcohol in liquor?	73
3. What is Spurious Liquor?	74
4. What is Methanol?.....	74

5. How does Spurious Liquor Kill?.....	75
6. Treatment.....	76
TRANSFORMER	76
1. Introduction	76
2. Deep neural networks	77
3. Attention Is All You Need	77
4. Attention.....	78
5. The billion and trillion scale	79
MERCURY IN RETROGRADE	80
1. Introduction	80
2. A matter of Orbits	80
3. The other retrograde.....	81
4. Illusion.....	82
5. Frequency of the Retrograde	83
General Studies III: Security Issues	
DRUG TRAFFICKING	83
1. Introduction	83
2. Key points.....	84
STORM SHADOW CRUISE MISSILE.....	86
INDIA'S JOURNEY TO BECOME NUCLEAR POWER	88
1. Context	88
2. Homi J Bhabha (The man behind India's Nuclear Programme)	88
3. The threat of China and Pakistan	89
4. The Discriminatory NPT.....	89
5. Pokhran-I and its Aftermath.....	90
6. Pokhran-II.....	90
7. The Period Between the two nuclear tests	91
8. India's Doctrine of Nuclear No-First Use	92



9. Important key takeaways of the doctrine92

General Studies IV: Ethics & Integrity

WOMANHOOD93

1. Introduction93

2. Two Readings of womanhood.....93

3. other narrative.....94

4. Role of Education95

5. Doublestandards96

For Mains..... **96**

For Prelims **97**

General Studies I: Art & Culture

JALLIKATTU

1. Context

A five-judge Constitution Bench of the Supreme Court has upheld the amendments made by Tamil Nadu, Maharashtra, and Karnataka to The Prevention of Cruelty to Animals (PCA) Act, 1960, allowing Jallikattu, Kambala, and bullock-cart races. The court overturned the verdict of a two-judge Bench in ‘Welfare Board of India v. A. Nagaraja’ (2014), which had banned practices such as Jallikattu, the traditional bull-taming sport of the Pongal harvest festival.

2. Background

- The five-judge Bench noted that Jallikattu has been held in Tamil Nadu for at least a century, and “we will not disrupt the view of the legislature that it is part of the cultural heritage of the state”.
- In the 2014 ‘Nagaraja’ judgment, an SC Bench of Justices K S Radhakrishnan and Pinaki Chandra Ghose had ruled that the Prevention of Cruelty to Animals Act, 1960 “over-shadows or overrides the so-called tradition and culture”.
- In its judgment delivered on May 18, 2023, the Constitution Bench said, “We do not accept the view of Nagaraja that Jallikattu is not a part of the cultural heritage of State of Tamil Nadu. We do not think that there was sufficient material for the Court to come to that conclusion.”

3. What is Jallikattu?

- It is a bull-taming sport and a disputed traditional event in which a bull is released into a crowd of people.
- Multiple human participants attempt to grab the large hump on the bull’s back with both arms and hang on to it while the bull attempts to escape.

- Participants hold the hump for as long as possible, attempting to bring the bull to a stop. In some cases, participants must ride long enough to remove flags on the bull's horns.
- It is typically practiced in the state of Tamil Nadu as a part of Pongal (harvest) celebrations in January.



Image source: Web

4. Pongal and the culture of Jallikattu

- Pongal in Tamil Nadu is a celebration of nature and thanksgiving for a bountiful harvest. Similar harvest festivals of Makara Sankranti, Maghi, and Magh Bihu are observed in other parts of the country at the same time, in mid-January.
- In Tamil Nadu, the festival lasts for three or four days, and on the third day, Mattu Pongal, cattle are worshipped.
- The bull-taming events then start, especially in the southern districts of the state, when the elite Jallikattu breeds test the strength and skill of farm hands in specially constructed arenas.

5. Supreme Court's 2014 Verdict

- The two-judge Bench backed a perspective that puts animal rights on par with the fundamental rights that the Constitution of India guarantees to its citizens.
- Drawing upon Upanishadic wisdom, the Bench had advised Parliament to “elevate rights of animals to that of constitutional rights, as done by many of the countries, to protect their dignity and honour”.

- Jallikattu is doubtless a violent sport, in which there is only one winner man or bull.
- The Animal Welfare Board of India, a statutory body under the central government, and animal rights groups like People for the Ethical Treatment of Animals (PETA) presented evidence, including pictures and videos, that the Jallikattu animals were physically and mentally tortured.
- Bulls are beaten, poked, prodded, harassed, and jumped on by numerous people.
- They have their tails bitten and twisted and their eyes and noses filled with irritating chemicals,” the judgment said.

6. Issues with the Sport

- **Human deaths:** The event has caused several human deaths and injuries and there are several instances of fatalities to the bulls.
- **Manhandling of animals:** Animal welfare concerns are related to the handling of the bulls before they are released and also during the competitor’s attempts to subdue the bull.
- **Animal cruelty:** Practices, before the bull is released, include prodding the bull with sharp sticks or scythes, extreme bending of the tail which can fracture the vertebrae, and biting of the bull’s tail.
- **Animal intoxication:** There are also reports of the bulls being forced to drink alcohol to disorient them, or chilli peppers being rubbed in their eyes to aggravate the bull.

7. Supreme Court View on Jallikattu

- Supreme Court in 2014 banned the sport jallikattu as it violates provisions of the Prevention of Cruelty to Animals Act (PCA) and militates the constitutional duty of treating animals with compassion, Article 51A (g).
- It also reiterated the expansive reading it had given in the past, to Article 21 (Right to Life), which prohibits any disturbance to the environment, including animals, considered essential for human life.

8. The inescapable cultural context

- ‘Vaadivasal’ is in a social space where pride is a culture and tradition in itself. It gives clues as to why the ban on Jallikattu was so fiercely contested.

- For agrarian communities like Thevars and Maravars, Jallikattu is one of the few markers of their social standing and identity in a fast-changing world.
- The contest, which celebrates masculinity, is almost an act of cultural resistance to urban modernity that tends to marginalize rural and agrarian values.
- Jallikattu's linkages with Pongal has lifted it above its regional and community origins and transformed it into a symbol of Tamil culture and pride.
- Pride in Tamil culture is central to Dravidian nationalism, which continues to shape the political discourse in Tamil Nadu. Indeed, the political consensus in favour of Jallikattu is inescapable.
- Tradition and culture are not immune to change. But it is facile to argue that the rights discourse can be conducted ignoring the cultural context.
- The argument to move from an anthropocentric vision and adopting biocentric ethics will have to be discussed and negotiated in cultural terms as well.
- In the absence of such engagement, the supporters of animal rights are likely to be seen as a deracinated group that is insensitive to local culture and tradition.

RAMANUJACHARYA

1.About Ramanujacharya

- Born in 1017 in Sriperumbudur in Tamil Nadu, Ramanujacharya is revered as a Vedic philosopher and social reformer. He travelled across India, advocating equality and social justice
- Ramanuja revived the Bhakti movement, and his preachings inspired other Bhakti schools of thought. He is considered to be the inspiration for poets like Annamacharya, Bhakt Ramdas, Thyagaraja, Kabir, and Meerabai.
- From the time he was a young budding philosopher, Ramanuja appealed for the protection of nature and its resources like air, water, and soil.
- He went on to write nine scriptures known as the navaratnas, and composed numerous commentaries on Vedic scriptures

- Ramanuja is also credited with establishing the correct procedures for rituals performed in temples throughout India, the most famous being Tirumala and Srirangam



2. Contributions

- Ramanuja was an advocate of social equality among all sections of people centuries ago, and encouraged temples to open their doors to everyone irrespective of caste or position in society at a time when people of many castes were forbidden from entering them
- He took education to those who were deprived of it. His greatest contribution is the propagation of the concept of “vasudhaiva kutumbakam”, which translates as “all the universe is one family”

- He travelled across India for several decades, propagating his ideas of social equality and universal brotherhood from temple podiums
- He embraced the socially marginalised and condemned, and asked royal courts to treat them as equals
- He spoke of universal salvation through devotion to God, compassion, humility, equality, and mutual respect, which is known as Sri Vaishnavam Sampradaya
- According to Chinna Jeeyar Swami, the Vaishnava seer behind the Statue of Equality, Ramanujacharya's social philosophy was designed to cross the boundaries of the caste system and to embrace the whole of humanity

Ramanujacharya liberated millions from social, cultural, gender, educational, and economic discrimination with the foundational conviction that every human is equal regardless of nationality, gender, race, caste, or creed. We are celebrating his 1,000th birth anniversary as the 'Festival of Equality', upholding the view that the world is one family, 'vasudhaiva kutumbakam'

CLASSICAL DANCES OF INDIA

1. Background

Dance is an ancient and celebrated cultural tradition in India. Folk dances abound all across the country, and huge crowds of people can be found dancing at festivals and weddings. Dance and song features heavily in Indian cinema

But where does Indian dance draw its roots from? Here are six of the most important classical dance forms of India

2. Classical Dances of India

2.1. Bharatanatyam

- Bharatanatyam of Tamil Nadu in southern India has grown out of the art of dancers dedicated to temples, and was earlier known as Sadir or Dasi Attam. It is the first of India's traditional dances to be refashioned as a theatre art and to be exhibited widely both at home and abroad

- Bharatanatyam rests on principles of performance and an aesthetics set down in classics such as Bharata's Natyashastra. It has a rich repertoire of songs in Telugu, Tamil and Sanskrit
- The present-day format of a Bharatanatyam recital, as well as a valuable part of its musical compositions, were created by the famed 'Tanjore Quartet' of the nineteenth century: the brothers Ponniah, Chinnaiah, Sivanandam and Vadivelu.
- Bharatanatyam has a highly evolved language of Nritta, abstract dance, and Nritya which unfolds the narrative
- The themes have a wide range spanning human and divine love, and are generally classed under the rubric of shringara (romantic love) and Bhakti (devotion).
- The musicians accompanying a dance recital include at least one vocalist, a Mridangam (drum)-player, and a flutist or violinist or Veena (lute)-player. The group also includes a Nattuvanar, or dance conductor, who recites the dance syllables as he plays a pair of small bronze cymbals



2.2. Manipuri Dance, Manipur

- Manipuri dance, evolved in Manipur in north-eastern India, is anchored in the Vaishnava faith of the Meiteis, or people of the Manipur valley
- The temples of Manipur are still among the principal staging venues of the dance

- Therefore the predominant theme of Manipuri dance is devotion, and the rich lore of Radha and Krishna lends it episodic content. Over a period of centuries, the traditional art has gone through various stages of development to become the sophisticated theatre art it is today
- Manipuri dance is introverted and restrained compared to most other dances of India – the artist never establishes eye contact with the audience
- The movements are circular and continuous, each merging into the other. Mudras or hand-gestures are subtly absorbed in the flow of the movement overall. The facial expression is subdued and never exaggerated. These features are evident even in the more vigorous masculine dances.
- Jagoi and cholom are the two main divisions in Manipur's dance, the one gentle and the other vigorous, corresponding to the lasya and tandava elements described in Sanskrit literature
- The jagoi element is predominant in Ras Leela and similar votive performances



2.3. Kathak

- Kathak is the principal dance of northern India, and is widely practised in Uttar Pradesh, Rajasthan, Delhi, Madhya Pradesh, and even parts of western and eastern India today
- It is believed to be connected with the narrative art of Kathakaras or story-tellers who have expounded the scriptures, the epics Ramayana and Mahabharata, and puranic literature to the lay masses since ancient times.

- Expanding and refining its movement and vocabulary of expression, this art possibly transited to a courtly milieu in medieval India, and achieved its finest flowering under Mughal rule
- Later, in the nineteenth century, the princely courts at Lucknow, Jaipur, Raigarh, and other places emerged as leading centres of Kathak dance



2.4.Odissi

- Odissi dance has its origins in Orissa in eastern India, where in its rudimentary form it was performed as part of temple service by ‘maharis’ or female temple servants.
- The traditional dance was remoulded as a theatre art towards the middle of the twentieth century with reference not only to the existing dance art, but representation of dance in Orissa’s medieval sculpture, painting, and literature
- In its remodelled form, Odissi dance has spread quickly across the country
- The Vaishnava faith of Orissa is intrinsic to Odissi dance and the lore of Krishna and Radha supplies its content
- Codified footwork of ‘Pada bheda’, gaits and walks termed ‘chalis’, and spins or ‘bhramaris’ are other components of the technique of Odissi dance



2.5.Kathakkali

- Kathakali or ‘story play’ took shape in Kerala in southern India in the seventeenth century under the patronage of the prince of Karnataka, who wrote plays for performance drawn from the epic Ramayana in Malayalam, the language of the region. Stories from the Ramayana and Mahabharata provide the content of most Kathakali plays, which have come down to us in a steady stream over three centuries
- Kathakali categorizes its characters according to their nature and employs make-up and costume to build them up as symbolic personalities
- The faces of actors are painted according to the type of character they represent – green for heroes, kings, and divinities, red and black for the evil and fierce, etc. The main feature of the costume is a large, billowing skirt for male characters and various elaborate headdresses



2.6. Mohiniattam

- Mohiniattam, which belongs to Kerala in southern India, takes its name from the mythic enchantress Mohini. It is dance of feminine grace, and has grown out of performances connected with Kerala's temples
- The prince Swati Tirunal of Travancore, a patron of arts and an artist himself, was one of the chief architects of the dance in the nineteenth century and composed a large repertoire of songs which accompany the performance
- Mohiniattam uses rhythms that are special to Kerala: the rhythmic syllables used are those of the Maddalam, a drum which provides accompaniment for female roles in the Kathakali theatre



2.7.Kuchipudi

- Kuchipudi, one of the major dance forms of India was originated from Andhra Pradesh, where it grew largely as a product of Bhakti movement beginning in the 7th Century AD
- Kuchipudi derives its name from the village Kuchelapuram, where it was nurtured by great scholars and artists who built up the repertoire and refined the dance technique
- The Kuchipudi is a dance-drama of Nritta, Nritya and Natya. The Nritta consists of teermanams and jatis, the Nritya of Sabdams, and the Natya of acting with Mudras for the songs
- Nritta encompasses steps and movements in the form of patterns of dance which, though ornate in themselves, have no meaning to convey
- Kuchipudi, combines speech, Abhinaya (mime) and pure dance



2.8.Sattriya dance

- ‘Sattriya dance’ refers to the body of dance and danced drama developed in the sattras or monasteries of Assam since the sixteenth century, when the Vaishnava faith propagated by the saint and reformer Shankaradeva (1449-1586) swept the land
- It is a distinct genre within the fold of classical Indian dance, with an evolved language of hand gesture (hasta), footwork (pada karma), movement and expression (Nritta and Abhinaya), and a repertoire centered on devotion to Krishna.



2.9.Chhau

- The Chhau dance of Eastern India -- Orissa, Jharkhand, and West Bengal – is a blend of martial traditions, temple rituals, and folk and popular performance of this region
- Episodes from the epics Mahabharata, Ramayana, Puranas, traditional folklore, local legends and abstract themes through the medium of dance and a music ensemble that consists primarily of indigenous drums
- In its traditional context, the dance is intimately connected with the festivals and rituals of this region



INTACH

1. Context

As the railway ministry has started redevelopment of Paralakhemundi station, one of the oldest railway stations in Odisha, the state chapter of the Indian National Trust for Art and Cultural Heritage (INTACH) has objected to the demolition of the heritage station built in 1899 by the then royals.

2. Background

- In a letter to Union railway minister Ashwini Vaishnaw, INTACH Odisha said the new building being developed by the railways is on a raised platform and overshadows the existing heritage structure.
- It demanded that the old station should be given a heritage tag and preserved as it is.
- While the new building is being built on the lines of the older one, it should be noted that the original building has a lot of historical and heritage value.

3. History

- According to official sources, the then Maharaja of Parlakimedi (now Paralakhemundi) had decided to connect his capital with Nuapada (in Andhra Pradesh now) which got rail lines in 1884, with a light railway. After getting the nod from the British authorities in 1898, he built a 39-km line by spending around Rs 7 lakh from his coffer.
- INTACH also urged the railway minister that at least two of the original heritage locomotives of the PLR (Paralakimedi Light Railway) should be brought back and properly plinthed at the railway station.
- About seven of the original locomotives are lying scattered at places that have no connection to Paralakhemundi.
- The 1899-built wooden carriage used by the royals of Paralakhemundi, which is kept at the narrow-gauge railway museum at Nagpur, too should be brought back for display at the station, it demanded.
- Stating that many other artifacts relating to the PLR are kept at the Nagpur museum, including signaling equipment, electrical equipment, scales, uniforms, insignias, German silver cutlery, and royal embellishments, INTACH said all these should be obtained back.

4. Indian National Trust for Art and Culture Heritage (INTACH)

- The Indian National Trust for Art and Cultural Heritage (INTACH) was established in New Delhi in 1984 with the goal of raising heritage awareness and conservation in the country.
- With over 190 Chapters around the country, INTACH is now one of the world's largest heritage organizations.
- INTACH has been a leader in the protection and preservation of not just our natural and constructed heritage, but also our intangible heritage for the past 31 years.
- Architectural Heritage, Natural Heritage, Material Heritage, Intangible Cultural Heritage, Heritage Education and Communication Services (HECS), Crafts and Community Cell, Chapters, INTACH Heritage Academy, Heritage Tourism, Listing Cell, and Library, Archives, and Documentation Centre are among the Chapters that operate out at INTACH.
- The INTACH's inaugural governing council included notable figures such as former Prime Minister Rajiv Gandhi, M.G.K. Menon, Dr. Kapila Vatsyayan, Madhavrao Scindia, and others.

General Studies I: World Geography

AVERAGE MONSOON RAINFALL

1. Context

In its first-stage long-range forecast for the 2022 southwest monsoon, the India Meteorological Department (IMD) has forecast normal rainfall during the season. It has, however, downgraded the Long Period Average (LPA) for all-India monsoon rainfall from 88.06 cm to 87 cm, effective from June this year.

2. Trends of Rainfall in India

- Based on trends for 1961-2010, India's normal annual rainfall is about 1176.9mm. Of this, nearly 74.8%, or 880.6 mm (88.06 cm), occurs during the Southwest monsoon from June to September. This is the LPA rainfall for the monsoon, the figure that has been revised.
- Before the revision, the distribution of the rest of the rainfall was 3.4% during winter (January-February); 11.2% in the pre-monsoon season (March-May), and 10.5% during the post-monsoon season (October-December).

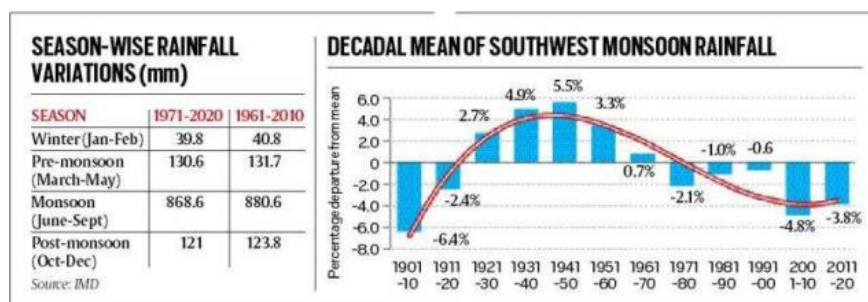


Image Source: The Indian Express

3. What is LPA?

- It is the rainfall recorded over a particular region for a given interval (like month or season) average over a long period like 30 years, 50 years, etc.
- The amount of rain that falls every year varies from region to region and from month to month.
- The IMD also maintains LPAs for every meteorological region of the country.
- This number ranges from 61 cm for the drier Northwest India to more than 143 cm for the wetter East and Northeast India.
- The LPA of the season rainfall over the country as a whole for the period 1971-2020 is 87 cm.

4. When is the LPA revised?

- It is an international convention to verify the quantum of annual and seasonal monsoon rainfall once in a decade. The monsoon season's LPA rainfall acts as a baseline figure calculated over 50 years.
- The LPA is revised if required, depending on any variations observed from the rainfall data obtained from the network of rain gauges.
- In 2002, the IMD operated 1,963 rain gauges located across 523 districts.
- As of 2020, rainfall data was being collected from 4,132 rain gauges spread uniformly across 703 districts.
- Between 2005 and 2010, India's LPA was taken at 89.04 cm. Between 2011 and 2015, the IMD revised it to 88.75 cm.
- It was 88.06 cm between 2018 and 2021. From the upcoming monsoon, the revised LPA will be 87 cm.

5. How much rainfall does India receive in a year?

IMD maintains five rainfall distribution categories on an all-India scale. These are:

- Normal: When the percentage departure of actual rainfall is +/-10% of LPA.
- Below normal: when the departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA.
- Above normal: when actual rainfall is 104-110% of LPA.
- Deficient: when the departure of actual rainfall is less than 90% of LPA.
- Excess: when the departure of actual rainfall is more than 110% of LPA.

6. Why it has been Downgraded?

- The monsoon season rainfall shows an epochal behavior.
- The monsoon can shift between dry and wet epochs (30 to 50-year periods) in certain decades.
- The reduction in rainfall is thus due to the natural multi-decadal rainfall variability. Decadal variability between 1901 and 2020 shows the southwest monsoon rainfall underwent a dry epoch between 1901 and 1921. This was followed by a wet epoch that prevailed till 1970.
- Since 1971, the monsoon has been passing through a dry epoch that persists to date.
- The decadal mean value will reach near normal during 2021-2030. The decadal mean value for the ongoing decade is predicted to be around minus 1.4 to 1.5.
- Normally, the realized monsoon rainfall remains below normal for most years in a decade during a dry epoch.
- Rainfall is normal or above normal during most of the years in a decade when it is a wet epoch.

General Studies II: International relations

G7- HIROSHIMA SUMMIT

1. Context

Leaders of seven of the world's most powerful democracies will gather this weekend for the Group of Seven summits in Hiroshima, the location of the world's first atomic attack at the end of World War II.

From the emergence of crucial developing countries to security worries, including growing aggression from China, North Korea and Russia.

2. About G-7 Summit

- The Group of Seven is an informal group of leading industrialised nations.
- It consists of **Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.**

- This year is Japan's turn to host, but the presidency of G-7 summits revolves around the seven members. Two representatives of the European Union also Join.
- As is customary in recent years, leaders from some non-G-7 Countries and international organizations will also participate in some sessions.
- The leaders discuss a wide range of issues, including economic policy, security, climate change, energy and gender.
- The first summit was in 1975 when France hosted what was then a Group of Six meeting to discuss tackling a recession that followed an **Arab oil Embargo**.
- Canada became the seventh member a year later. **Russia joined to form the G-8** in 1998 but was expelled after Moscow's 2014 annexation of Crimea.

3. Guests for Hiroshima summit

- The leaders of Australia, Brazil, Comoros, Cook Islands, India, Indonesia, South Korea and Vietnam are invited, as Japanese Prime Minister Fumio Kishida stresses the importance of reaching out to developing countries in the Global South and US allies and partners.
- The invitations to leaders outside the G-7 are meant to extend cooperation to a broader range of countries.
- The G-7 countries' share of global economic activity has shrunk to about 30 per cent from roughly 50 per cent four decades ago.
- Developing economies such as China, India and Brazil have made huge gains raising questions about the G-7's relevance and its role in leading a world economy that's increasingly reliant on growth in less wealthy nations.
- Leaders of the United Nations, the International Energy Agency, the International Monetary Fund, the Organisation for Economic Cooperation and Development, the World Bank, the World Health Organisation and the World Trade Organisation are also invited.

4. Reasons for selecting Hiroshima

- Hiroshima is Kishida's hometown. His choice of venue underscores a determination to put nuclear disarmament and non-proliferation at the top of the agenda of this year's summit.

- A path to nuclear disarmament has appeared more difficult with Russia's recent nuclear weapon threats in Ukraine as well as nuclear and missile development by China and North Korea.
- Japan, which is protected by the US nuclear umbrella, has also faced criticism that its nuclear disarmament pledge is an empty promise.
- Kishida is trying to forge a realistic roadmap between the current harsh reality and the ideal of a world without nuclear weapons.

5. Major Issues

- G-7 leaders are expected to strongly condemn Russia's war on Ukraine while pledging their continuing support for Ukraine.
- Ukrainian President Volodymyr Zelenskyy will join the session via the Internet.
- There will also be a focus on Beijing's escalating threats against Taiwan, the self-governing democratic island Beijing claims as its own, and ways to reduce Western democracy's economic and supply chain dependency on China.
- To address the rise of Global South nations, including many former colonies of Western powers with varied views on and ties to Russia and China, the G-7 will offer these countries more support in health, food security and infrastructure to develop closer ties.

6. Japan and South Korea

- On the sidelines of the summit, Kishida will meet together with President Joe Biden and South Korean President Yoon Suk Yeol to discuss closer security cooperation, possibly including stronger nuclear deterrence.
- Both Korea and Japan will repair ties strained by disputes stemming from Japan's 1910-1945 colonial rule of the Korean Peninsula.

INDO PACIFIC ECONOMIC FRAMEWORK

1.Context

WITH US President Joe Biden cancelling his trip to Australia due to the crucial debt-ceiling talks in Washington, Australian Prime Minister Anthony Albanese announced that the Quad leaders' summit would not take place in Sydney. However, there is a possibility of the Quad leaders meeting in Hiroshima, on the margins of the G7 summit. But Prime Minister Narendra Modi, who has lined up bilateral engagements including a meeting with Albanese, top business CEOs and the Indian diaspora in Sydney, will continue with his scheduled trip to Australia, sources said in New Delhi

2. Background

- The U.S.-led economic grouping of a dozen countries representing 40 per cent of the global GDP proposes **to advance resilience, economic growth, competitiveness and fairness in member countries.**
- However, some analysts view it as a move to counter China's growing influence in the region.
- The stated objectives of the IPEF are to **promote trade, clean energy, and infrastructure and to strengthen supply chains.**
- For reasons relating to substantial economic dependence on China, three smaller economies among ASEAN member countries — **namely, Laos, Cambodia and Myanmar — have stayed out of the IPEF.**

3. Significance of Indo-Pacific Economic Framework

- **Indo-Pacific Economic Framework for Prosperity (IPEF)** aims to strengthen economic partnership among participating countries **to enhance resilience, sustainability, inclusiveness, economic growth, fairness, and competitiveness** in the Indo-Pacific region.
- The IPEF was launched with a dozen initial partners who together **represent 40% of the world GDP.**
- It is a declaration of a collective desire to make the Indo-Pacific region an engine of global economic growth.
- The Indo-Pacific covers half the population of the world and **more than 60% of the global GDP** and the nations who will join this framework in the future, are signing up to work toward an economic vision that will deliver for all people.

4. Domains of cooperation in Indo Pacific Economic Framework

- **The economic framework broadly rests on four pillars:** trade, supply chain resilience, clean energy and decarbonisation, and taxes and anti-corruption measures.
- **Trade:** We seek to build high-standard, inclusive, free, and fair trade commitments and develop new and creative approaches in trade and technology policy that advance a broad set of objectives that fuel economic activity and investment, and promote sustainable and inclusive economic growth, and benefits workers and consumers. Our efforts include, but are not limited to, cooperation in the digital economy.
- **Supply Chains:** We are committed to improving transparency, diversity, security, and sustainability in our supply chains to make them more resilient and well-integrated. We seek to coordinate crisis response measures; expand cooperation to better prepare for and mitigate the effects of disruptions to better ensure business continuity; improve logistical efficiency and support; and ensure access to key raw and processed materials, semiconductors, critical minerals, and clean energy technology.
- **Clean Energy, Decarbonization, and Infrastructure:** In line with our Paris Agreement goals and efforts to support the livelihood of our peoples and workers, we plan to accelerate the development and deployment of clean energy technologies to decarbonize our economies and build resilience to climate impacts. This involves deepening cooperation on technologies, mobilizing finance, including concessional finance, and seeking ways to improve competitiveness and enhance connectivity by supporting the development of sustainable and durable infrastructure and by providing technical assistance.
- **Tax and Anti-Corruption:** We are committed to promoting fair competition by enacting and enforcing the effective and robust tax, anti-money laundering, and anti-bribery regimes in line with existing multilateral obligations, standards, and agreements to curb tax evasion and corruption in the Indo-Pacific region. This involves sharing expertise and seeking ways to support capacity building necessary to advance accountable and transparent systems.

5. Significance and Prominence of the Framework

- It's a salient attempt to allow countries to decouple from Chinese over-dependence. The framework will strengthen the existing free and open rules-based global order, which China has been targeting to upend.
- It will help the U.S regain its dominant position in geopolitics that it has been losing to China and Russia. The aim is to reclaim economic leadership in East Asia and the ASEAN region without giving away concessions that would anger domestic lobbies.
- It will help in setting the rules of the road for the digital economy, ensuring secure and resilient supply chains. It will also play a pivotal role in raising standards for transparency, fair taxation, and anti-corruption.
- It complements the “Quad Plus” process. It brings together seven critical countries of the Association of Southeast Asian Nations (ASEAN), all Quad states, and dialogue partners. This grouping solidifies a case for the “plus” characterisation of the Quad process.
- It will counter the other regional groupings; the TTP, the CPTPP and the RCEP. None of them had India or the U.S as participants.
- It will also improve mitigation and adaptation efforts towards climate change by helping in inducing major investments necessary in clean energy infrastructure and the clean energy transition.

6. India's interest in Indo-Pacific

- India's trade in this region is growing rapidly, with overseas investments being directed towards the East.
- For Instance, the Comprehensive Economic Partnership Agreements with Japan, South Korea, and Singapore, and the Free Trade Agreements with ASEAN (Association of Southeast Asian Nations) and Thailand.
- **Nearly 50% of India's trade** is centred in the Indo-Pacific Region and the Indian Ocean carries **90% of India's trade and its energy sources**.
- India wants to **assure freedom of navigation**, secure choke points, resolve conflicts peacefully and address non-traditional security threats in the Indian Ocean Region (IOR).

- India has been active in **championing a Free and Open Indo-Pacific**. The US, Australia, and the members of the ASEAN have all expressed a common view that India plays a greater role in the region.
- **Strong naval capabilities, multilateral diplomacy, and economic integration** in the region are the need of the hour
- The countries in the region should have **equal access as a right** under international law to the use of common spaces on sea and in the air that would require **freedom of navigation**, unimpeded commerce and peaceful settlement of disputes by international law.

7. Associated Challenges

- Though it's stated to be beneficial for the countries in the region it would require huge **investments and active participation in the implementation phase**.
 - **More unilateral and not consensus-based:** Unlike traditional trade blocks where the agreements are the results of arduous negotiations by the members, the IPEF is driven primarily by the USA.
 - **Binding trade rules:** It might fail to bring all countries in the region on board as it comes with binding trade rules but no guarantees on market access.
- **India's main concern is on the issue of data localisation, on which it has locked horns with the US over the last two or three years.**
 - In 2019, the government has introduced a bill in Lok Sabha that envisages a framework for localizing Indian data and the establishment of a Data Protection Authority

8. Current Developments

- With the creation of the IPEF, the US intention appears to be to dilute China's economic heft in the Indo-Pacific region.

- China's influence in Asia and Oceania has grown hugely over time due to its substantial-to-overwhelming trade and investment ties with ASEAN nations as well as Japan, South Korea, Australia and New Zealand.

9. Need of the Hour

- **Establishing Common Standards:** Such standards will cover labour rights, environmental standards, and the protection of intellectual property rights.
- **Addressing Tech-related Issues:** Clear framework on Data flow
- **Balancing Self-Reliance and Globalization:** India has always expressed its desire to attract foreign investment and become part of global supply chains, it is time to utilize the opportunities provided under IPEF with carefully framed policies.
- It is important to **establish connectivity in the region** based on respect for sovereignty and territorial integrity, consultation, good governance, transparency, viability and sustainability.
- **Appropriate diplomatic manoeuvring and economic and military assertion** are vital for the implementation of India's interests in the region along with leveraging the space as a building block for multipolar world order.
- Shortcomings on the ground have often **afflicted India and that needs to change.**

CHINA-CANADA

1. Context

On May 8, 2023 the Canadian government declared Chinese diplomat Zhao Wei persona non grata, for allegedly targeting a Canadian lawmaker critical of China's human rights record. Hours later, China announced a "reciprocal countermeasure"

by asking Jennifer Lynn Lalonde, a top diplomat in the Canadian consulate in Shanghai, to leave the country by May 13.

2. Background

- On May 9th, 2013, China declared a Canadian diplomat as persona non grata following Canada's announcement that it would expel a Chinese diplomat on account of allegations of involvement in a campaign to intimidate a Canadian politician.
- According to the Chinese foreign ministry, the decision to declare the consul of the Consulate General of Canada in Shanghai as persona non grata is a reciprocal countermeasure in reaction to the Canadian government's decision to expel a Chinese diplomat, Zhao Wei accused of participating in an intimidation campaign against a Canadian politician who has accused China of human rights abuses.
- The Globe and Mail, a local newspaper, published a report by the Canadian Security Intelligence Service which revealed that Wei was involved in information gathering on the Canadian Opposition Politician, Michael Chong to deter him from adopting anti-China positions.
- Canada claimed that it would not tolerate any foreign interference in its internal affairs and that the expulsion decision had been taken after careful consideration of all involved factors.

3. What is Persona non Grata?

- Persona non grata is a Latin phrase that means an unwelcome person.
- In diplomacy and foreign affairs, it refers to a diplomat or foreign person who has been prohibited by a country from entering or remaining in that country.
- The designation received diplomatic meaning at the Vienna Convention for Diplomatic Relations which was held in 1961.
- Article 9 of the treaty mentions that a country can declare any member of a diplomatic staff persona non grata at any time without explaining or explaining its decisions.
- In a normal case, the person declared persona non grata returns to their native country, and if they fail to do so within a reasonable period, the country may refuse to recognize the person as a member of a diplomatic mission.

- Article 9 also mentions that a person can be designated as a persona non grata even before arriving in the country.

4. Vienna Convention

The Vienna Convention for Diplomatic Relations was adopted on 14th April 1961 by the United Nations Conference on Diplomatic Intercourses and Immunities, held in Vienna.

It entered into force in 1964 and has been ratified nearly universally with Palau and South Sudan being the only exceptions.

5. Provisions of the Vienna Convention

- It outlines the Special rules, privileges, and immunities available to diplomatic missions to enable them to perform their duties without fear of coercion or harassment through the enforcement of local laws and to enable them to communicate securely with their governments.
- It provides for the withdrawal of a mission on economic or physical security grounds and breach of diplomatic relations due to the abuse of immunity or severe deterioration in relations between the states.
- The Convention also provides a framework for the protection of the interest of the sending state in the receiving state by a third state.
- It asserts the "inviolability" of a diplomatic mission, a cornerstone of international diplomacy that prohibits officials of the receiving state from entering the mission without the consent of the head of the mission.
- This provision also provides diplomats with diplomatic immunity from prosecution.
- The security of a High Commission or Embassy is the host nation's responsibility although diplomatic missions can also employ their security forces.
- Besides from diplomats, military and civilian personnel from the military departments who are present in the nation at the direction of the head of the diplomatic mission are also covered by the Vienna Convention.
- India acceded to the Convention in 1956 and enacted the Diplomatic Relations (Vienna Convention) Act, 1972 to give effect to the provisions of the Convention.

6. What has led to strained CanadaChina ties?

- Diplomatic ties between China and Canada have been unsteady for the past few years, especially after Canadian police arrested Huawei Technologies executive Meng Wanzhou on charges of fraud in 2018.
- A few days after her arrest, China detained two Canadians on spying charges a move then called "hostage diplomacy".
- After years of a standoff, all three were freed by their respective nations in 2021 after a deal was reached to release Ms. Meng.
- During that period, China suspended imports of canola from Canada, alleging pests in the shipment. The ban was, however, lifted last year amid a global shortage of food in the wake of the Russia-Ukraine war. Since then, the rift has widened.
- Canada alleged that the Chinese government attempted to interfere in the 2019 and 2021 federal elections a charge Beijing vehemently denies.
- The two countries are also engaged in a technology battle. While Canada has limited the presence of Chinese firms in its communications infrastructure, Beijing believes the restrictions were imposed without any solid evidence.
- The tension between the leadership was also visible at the G20 summit in Indonesia last year when Chinese President Xi Jinping and the Canadian PM exchanged barbs over leaked details of their meeting about Chinese interference in domestic affairs.

ARAB LEAGUE

1. Context

The Arab League on May 7 voted to reinstate Syria's membership after its suspension more than 10 years ago, underlining the thawing relations between Damascus and other Arab countries.

The decision was taken at a closed-door meeting, attended by foreign ministers from 13 out of 22 member states of the organisation, held in Cairo, Egypt.

2. Key points

- Syria was ousted from the Arab League in 2011 following President Bashar al-Assad's brutal crackdown on pro-democracy protests, which led to the ongoing civil war in the country.
- The conflict has since killed around half of a million people and displaced about 23 million.

- Sunday's ruling, which allows Assad to attend the upcoming Arab League Summit in Saudi Arabia on May 19, has also called for a resolution of the Civil war and the resulting refugee and drug smuggling crises.
- A committee involving Egypt, Saudi refugees and drug smuggling crises.
- A committee involving Egypt, Saudi Arabia, Lebanon, Jordan and Iraq will soon be created to ensure Syria achieves these goals.

3. Syria's readmission

- Syria's readmission does not mean that the Syria crisis has been resolved, on the contrary... But it allows the Arab states for the first time in years to communicate with the Syrian government to discuss all the problems.
- Aboul Gheit also said the decision does not mean all Arab nations have normalised relations with Damascus.
- While countries like the United Arab Emirates have lobbied for Assad's and Syria's rehabilitation, others, including Jordan, Kuwait and Qatar have remained opposed to full normalisation before a conclusive political solution to the Syrian conflict.
- The United States has also criticised the latest move, saying "Syria did not deserve to be reinstated but that the US supported the Arab League's long-term objective of solving the crisis in Syria".

4. About Arab League

- The Arab League, formally known as the League of Arab States, was established in 1945 with initially just six nations: **Egypt, Iraq, Jordan, Lebanon, Saudi Arabia and Syria.**
- Currently, 22 member states have pledged to cooperate on economic and military affairs, among other issues.
- According to the Council on Foreign Relations, an American think tank, The League makes decisions on a majority basis, but there is no mechanism to compel members to comply with resolutions.
- It has been criticised for its internal conflicts and collective inaction on important international issues.

5. Reasons for reinstating Syria's membership

- The Arab League's decision is the culmination of Assad's diplomatic efforts to return to the fold, which gained momentum after this February's massive earthquake in Turkey and Syria.
- The devastating disaster that killed thousands helped the president rebuild ties, seeking humanitarian aid, with rival Arab countries and gain their support while pushing for an end or ease of sanctions imposed on Syria by the Western Nations.
- Assad, long shunned as a pariah in the region, has received a favourable response from several Arab nations like Egypt and Oman not just because they wanted to help the earthquake victims.
- Experts believe these countries have realised they need to end Damascus' isolation for the stability of West Asia.
- Moreover, they want some sort of repatriation of refugees back into Syria and a curb on the trade of captagon, a highly addictive amphetamine produced in the country according to the reports, nations such as Saudi Arabia and Jordan are facing a big addiction problem due to Syria's sprawling multi-billion dollar drug industry.
- There is a vacuum and this is where the regional powers have come in.
- If nothing is going to change, if there is not going to be a real political process then we as a region cannot afford to ignore Syria. It's too big and significant a country.
- Another catalyst in Syria's rehabilitation is the China-brokered re-establishment of diplomatic relations between regional powerhouse Saudi Arabia and its archenemy, Iran, that took place in March this year.
- Analysts say the ease in tensions between Tehran and Riyadh has benefited Syria, which has been reliably supported by the former since the outbreak of the civil war.
- The restoration of Syria's membership in the Arab League is a huge victory for Assad but it remains largely a symbolic one.
- Given that Western sanctions against Assad's government remain in place and the return to the Arab League is not expected to lead to a quick release of reconstruction funds in the war-battered country.
- A further normalisation in relations and ease of sanctions can be expected if Damascus successfully resolved its civil war and curtail the drug trade.
- It remains to be seen what steps Assad and his government will take to fulfil these goals.
- Many experts and regional nations like Kuwait and Jordan, however, fear that the Arab League's move will set a dangerous precedent.

- They say that reinstating Syria in the organisation without holding it accountable for carrying out atrocities such as indiscriminate barrel bombing and poison gas attacks against its civilians sends the wrong message.

MARITIME RESCUE COORDINATION CENTRE

1. Context

India and Sri Lanka have signed a Memorandum of Understanding for the Indian public sector Bharat Electronics Ltd (BEL) to set up a state-of-the-art **Maritime Rescue Coordination Centre (MRCC)** in Colombo.

The MoU was signed on March 28, 2023, during the visit of External Affairs Minister S Jaishankar to Colombo.

2. Key points

- The agreement is significant as it enhances cooperation on maritime security between the two countries in a part of the Indian Ocean region where the India-China rivalry has taken centre stage over the last decade.
- India also provided a **naval floating dock** to the Sri Lankan Navy, and **two Dornier aircraft** to the Sri Lankan Air Force.
- Indian Navy team has been training the Sri Lankan Air Force and Navy in helicopter operations.
- During the training, the Sri Lankan pilots are familiarised with India's **Advanced Light Helicopter**.
- The two navies conducted a joint exercise in the seas off Colombo. Indian Navy ship **Sharda** was part of the exercise, along with Sri Lankan **OPV Sayurala**.
- The engagement between the forces of the two countries will augment interoperability and seamless maritime actions like carrying out anti-smuggling operations in the Indian Ocean Region.

3. Enhancing Sri Lanka's Capacity

- MRCCs are part of an international network under the UN's International Maritime Organisation to monitor the sea lanes with the objective of swift

response to emergencies, such as vessels in distress, rescue and evacuation of people and prevention of and containing environmental disasters such as oil spills.

- Each country is responsible for its Search and Rescue Region.
- The work of MRCCs is coordinated by the Navy or Coast Guard in each country.
- In India, the Coast Guard is the coordinating agency. In Sri Lanka, it is the Navy.
- The Bengaluru-based BEL has proposed enhancing Sri Lanka's small MRCC by setting up advanced software systems that will increase Sri Lanka's capacities for communication and Coordination in its SRR in the Indian Ocean, where it is the first responder.
- The MRCC will be established with a grant of \$6 million from India.
- The enhanced MRCC will work out of the Sri Lankan Navy headquarters at Colombo, with a sub-centre at **Hambantota**, where a Chinese state-owned company runs a deep water port that it helped to build and which was controversially leased to it by Sri Lanka in 2016.
- The proposed new network will comprise seven other sub-units along Sri Lanka's coastline.
- In situations in which regional assistance has to be mobilised, as happened with the two recent ship fires in Sri Lankan waters, this MRCC will be able to share information with its Indian Counterparts.

4. SAGAR push

- Sri Lanka's SRR is a wide swathe of 1, 778, 062.24 sq km of the Indian Ocean and nearly 200 ships pass through these waters every day.
- The agreement appears to be part of India's **SAGAR** (Security and Growth for all in the Region) initiative in the Indian Ocean, which has also seen India, Sri Lanka and Maldives give a new push to their 2011 **Colombo Security Conclave** that now includes Mauritius.
- The recent meeting of the CSC National Security Advisers identified "five pillars" of cooperation:
 1. Maritime safety and security
 2. Countering terrorism and radicalisation
 3. Combating trafficking and transnational organised crime
 4. Cyber security, protection of critical infrastructure and technology and

5. Humanitarian assistance and disaster relief.

5. Sri Lanka Clarification

- The MRCC has been controversial in Sri Lanka. Parts of the agreement were leaked to the Sri Lankan press last week after it received cabinet approval.
- Sri Lanka's Defence Ministry issued a clarification on the MRCC, as well as on recent agreements with India for a naval floating dock and Dornier aircraft.
- The clarification has provided more details about the agreements that have been in the public domain so far.

6. Excerpts from the clarification

- The recently signed maritime security pacts with the Government of India will neither result in hindrance nor a threat to the national security of Sri Lanka, as misinterpreted by several print and electronic media.
- The receipt of the Floating Dock Facility from the Government of India at no cost has been projected to reduce the annual outlay of Rs 600 million for outsourced docking repairs and this proposal has been in the pipeline since year 2015.
- The **Dornier Reconnaissance Aircraft** is deployed for maritime surveillance, search and rescue operations and delivery of information to various required platforms.
- The unavailability of this capability was the motive for bilateral dialogues between the Governments of India and Sri Lanka during the last couple of years and it was agreed upon to provide one Dornier Reconnaissance Aircraft to Sri Lanka free of charge.
- Accordingly, during the period earmarked for the manufacturing process of the said aircraft, the Government of India will lend a similar aircraft which will be piloted by **Sri Lanka Air Force (SLAF)** pilots.
- An Indian Training team will also arrive and stay on the island until the SLAF gains the required expertise.
- Thus, SLAF aircrew will receive an added qualification enabling the country to further, strengthen its maritime security while cutting a large cost as a result of the pacts.

- Further, about the Maritime Rescue Coordination Centre in Colombo (MRCC), the Cabinet of Ministers has approved the proposal to establish MRCC with a US \$6 million grant from the Government of India.
- The establishment of MRCC is highly essential to instantly respond to the search and rescue services of vessels in distress operating in the region and ensure the safety of vessels in compliance with various international conventions.
- Sri Lanka Navy (SLN) is the authority responsible for conducting Maritime Search and Rescue (SAR) operations for commercial ships around the island's SAR region.
- Before the signing of the aforementioned three pacts, the Ministry of Defence followed the Standard criteria and procedures while channelling it through the other mandatory state establishments including the Attorney General's Department.
- Except for economic and security gains embedded with infrastructure and personnel development, the Defence Ministry assures there won't be any kind of risk to the national security of Sri Lanka it is a sovereign nation.

General Studies II: Governance

SIKKIM'S INTEGRATION WITH INDIA

1. Context

Sikkim day is annually celebrated on May 16, recalling the history of the former kingdom's integration with India in 1975. This year too, political leaders such as Congress party chief Mallikarjun Kharge, party leader Rahul Gandhi and Home Minister Amit Shah conveyed their messages, marking the day India's the 22nd state joined the union

2. History of Sikkim with Chogyal royals

- The kingdom of Sikkim was established in 1642, when, according to one account, three Tibetan lamas consecrated Phuntsong Namgyal as the first

ruler or Chogyal of Sikkim. The monarchy of the Namgyal dynasty was maintained for the next 333 years, until its integration with India in 1975

- Sikkim's Chogyal dynasty was of Tibetan origin. Sandwiched between India and China, and often party to conflicts over land with Bhutan and Nepal, the British colonisation of India first led to a kind of formal relationship developing between the two states
- The British saw Sikkim as a buffer state against China and against Nepal, with whom they fought in the Anglo-Gorkha war of 1814-16, helping Sikkim secure a number of territories that Nepal had previously captured
- A formal protectorate was established over Sikkim through the Treaty of Tumlong in 1861, meaning the British had control over it but it was not officially under their rule and the Chogyals could continue holding onto power



Sikkim King Tashi Namgyal

2.1. Other official treaties followed:

The treaty of Titaliya in 1817 gave the British authorities a number of commercial and political advantages in Sikkim

The Calcutta Convention of 1890 demarcated the border between Sikkim and Tibet, and was signed by Viceroy Lord Lansdowne and Qing China's Imperial Associate Resident in Tibet. The Lhasa Convention of 1904 affirmed the Calcutta Convention

3.Sikkim in Independent India

- After India's independence, princely states had the option to accede to India or Pakistan, and certain cases like of Hyderabad, Junagadh and Kashmir – where a decision was not immediate, led to greater confusion. Such was the case with Sikkim, thanks to a unique relationship with British rule
- Sardar Vallabhbhai Patel and the constitutional adviser to the constituent assembly, BN Rau, wanted to integrate the state with India by having the then Chogyal Tashi Namgyal sign the Instrument of Accession
- India's first Prime Minister, Jawaharlal Nehru, noted the unique situation in Sikkim
- India was, during meetings with representatives between the two, of the view that it should take control of defence, external affairs and communication subjects for Sikkim
- Until this was finalised, it was to sign a Standstill Agreement, keeping things as they were for the time being
- Sikkim consisted of three communities, the Bhutias, Lepchas and Nepalis, of which the Nepalis formed the largest group
- Three political parties, the Sikkim State Congress (SSC) led by a Bhutia man, the Praja Mandal (PM) that had Lepcha leadership and Praja Sudharak Samaj (PSS) was led by a Nepali, passed a resolution in December 1947 demanding a popular government, abolition of landlordism and accession to India
- A delegation of SSC and PM leaders also met Jawaharlal Nehru, who was of the view that India could not intervene at this moment, and that Sikkim should “grow according to its own genius.”
- After protests in Sikkim, the king appointed an Indian officer as the diwan or chief minister, along with an advisory committee with SSC representatives
- In 1950, the Indo-Sikkim Treaty was signed, making Sikkim an Indian protectorate. It would not be sovereign, as India controlled its defence, external affairs and strategic communications
- It also secured exclusive rights to build infrastructure there and Sikkimese people would travel abroad with Indian passports. “Internal autonomy” was

to be available to Sikkim. Additionally, a clause gave India overriding powers in cases of security threats



4. Annexation of Sikkim into India

- Sikkim's state council or assembly had some elected members and others nominated by the king
- In the early years, it saw some political tussle over the representation for various communities, and the Chogyal's reluctance to let go of his control
- The 1960s and 1970s would see several events change the course of Sikkim's status
- First, a split in the SSC led to the formation of the Sikkim National Congress (SNC) in 1960. The party would go on to play a crucial role in accession
- There was also change in political leadership on both sides in this decade, with the death of Nehru in 1964 and of his successor, PM Lal Bahadur Shastri, in 1966

- Then Chogyal Tashi Namgyal died in 1963, and Maharaj Kumar Thondup succeeded him, planning to leverage this period of changes to seek an independent status for Sikkim
- For new Indian PM Indira Gandhi, her position weakened after the 1967 general elections that saw her return to power with a reduced majority in the Lok Sabha
- This was following the India-China war of 1962, where India lost. It made it all the more important to contain skirmishes between Indian and Chinese troops on the Sikkim border
- The two states decided to alter existing wording to indicate a “permanent relationship” between them, but the Chogyal wanted further clarity on Sikkim’s independence
- This was slowly becoming unacceptable to the Indian leadership, which by the early 1970s, decided to back pro-democracy forces in Sikkim – such as Kazi Dorji of the SNC
- Anti-monarchy protests grew in Sikkim in 1973, following which the royal palace was surrounded by thousands of protesters
- Finally, a tripartite agreement was signed in the same year between the chogyal, the Indian government, and three major political parties, so that major political reforms could be introduced.
- A year later, in 1974, elections were held, where the Sikkim Congress led by Kazi Dorji won. That year, a new constitution was adopted, which restricted the role of the monarch to a titular post
- A referendum was held in Sikkim in 1975, where two-thirds of eligible voters took part. Here, 59,637 votes were cast in favour of abolishing the monarchy and joining India, with 1,496 voting against

DOTTED LANDS

1. Context

The Andhra Pradesh Government has started removing "**dotted lands**" in the state from the prohibited list, restoring full rights of selling or pledging these lands to the farmers who own them.

Over 2 lakh acres of these British-era dotted lands have been identified for permanent denotification.

2. About Dotted lands

- Dotted lands are disputed lands for which there are no clear ownership documents.
- Typically, one or more individuals as well as the government's Revenue Department lay claim over the land.
- These lands came to be known as "**Dotted lands**" because when during the British era, land ownership surveys and resettlement of land records were taken up, local revenue officials who were tasked with identifying government-owned and privately-owned lands put dots in the ownership column if more than one person claimed ownership or if ownership could not be established.
- These lands were also noted as disputed lands in the resettlement register or land records register. The dots on the land documents indicated their disputed status.
- The state government has so far identified 2, 06, 171 acres as dotted lands and has decided to remove them from the prohibited list.
- Officials said there could be more than 10 lakh acres of dotted lands in the state.
- Nellore district has the largest number of dotted land parcels (43, 000 acres), followed by the Prakasam district (37, 000 acres).

3. Ownership disputes

- This could happen if landowners did not leave clear wills passing on land to their heirs or children, and if a dispute arose because more than one heir lay claim over the land.
- Also, land could be deemed by the government to belong to the state, but was under occupation by private parties.
- Some of the land records in question are more than 100 years old and had been locked up in the prohibited list and registers.
- During subsequent surveys, government officials left the ownership column blank indicating their disputed status as per **Section 22A of the Registration Act**.

4. Benefit to landlords and farmers

- During the Assembly session held in March, the government introduced a Bill to amend the Revenue Act to grant titles to farmers who have been cultivating dotted lands for more than 12 years.
- The dots and entries in land registers will be removed and these farmers will be given clear land ownership documents.
- At least 97, 000 farmers will get land ownership documents for the 2, 06, 171 acres of denotified dotted lands.
- While these farmers were using the land, they could not procure loans from banks and financial institutions by putting up the land as collateral.
- Financial institutions do not recognise dotted land documents as clear ownership documents.
- With the lands now being taken off the prohibited list, landowners or farmers will get full rights over the lands and enjoy all usual rights as land owners.
- More importantly, they can apply for financial assistance for crop support, purchase seeds and fertilisers and procure farm equipment.
- The landowners or farmers can also sell the lands or gifts to kin or relatives.

5. Reasons for Removing Dotted Lands

- Over 1 lakh applications had been received by the **Chief Commissioner of Land Ceiling (CCLA)** over the past years to resolve dotted land disputes.
- In urban areas, dotted lands have been illegally sold and houses have been constructed, which cannot be taxed.
- With lakhs of acres under dispute, the government also loses stamp duty revenue.
- The Chief Minister has said that the registration value of the 2, 06, 171 acres is over Rs 8, 000 crores while the land value is over Rs 20, 000 crores.
- The exercise to free dotted lands was part of a comprehensive resurvey of lands taken up by the YSRCP government by implementing the **YSR Jagananna Saswatha Bhu Hakku and Bhu Raksha scheme**.
- Under the Scheme, the government has provided 7, 92,238 permanent title deeds to farmers in 2, 000 villages in the first phase. The second phase of the programme will take off next month.

INDIAN SPACE POLICY 2023

1. Context

The Indian Space Research Organisation (ISRO) released the Indian Space Policy 2023 that had been in the works for some years. The document has been received positively by industry. However, it needs to be followed up with suitable legislation, accompanied by clear rules and regulations. Just preceding this, this writer wrote the article, “Awaiting lift-off into the Second Space Age” (April 10, 2023), which said that India’s modest entry into the First Space Age followed by its many gains should be used to help the country tap the vast potential in the Second Space Age

2. Background

- Until the early 1990s, India’s space industry and space economy were defined by ISRO. Private sector involvement was limited to building to ISRO designs and specifications
- The Second Space Age began with the licensing of private TV channels, the explosive growth of the Internet, mobile telephony, and the emergence of the smartphone. Today, while ISRO’s budget is approximately \$1.6 billion, India’s space economy is over \$9.6 billion
- Broadband, OTT and 5G promise a double-digit annual growth in satellite-based services. It is estimated that with an enabling environment, the Indian space industry could grow to \$60 billion by 2030, directly creating more than two lakh jobs

3. History of Space Policy

- The first satellite communication policy was introduced in 1997, with guidelines for foreign direct investment (FDI) in the satellite industry that were further liberalised but never generated much enthusiasm
- Today, more than half the transponders beaming TV signals into Indian homes are hosted on foreign satellites, resulting in an annual outflow of over half a billion dollars

- A remote sensing data policy was introduced in 2001, which was amended in 2011; in 2016, it was replaced by a National Geospatial Policy that has been further liberalised in 2022
- Yet, Indian users including the security and defence agencies spend nearly a billion dollars annually to procure earth observation data and imagery from foreign sources
- To streamline matters, a draft Space Activities Bill was brought out in 2017, which went through a long consultative process. It lapsed in 2019 with the outgoing Lok Sabha

4. 2023 Space Policy

- Indian Space Policy 2023 is qualitatively different from previous efforts
- The ‘Vision’ is to “enable, encourage and develop a flourishing commercial presence in space” that suggests an acceptance that the private sector is a critical stakeholder in the entire value chain of the space economy
- It defines its role in India’s “socio-economic development and security, protection of environment and lives, pursuing peaceful exploration of outer space, stimulation of public awareness and scientific quest”
- Considering that space-based intelligence, reconnaissance, surveillance, communication, positioning and navigation capabilities are increasingly seen as mission critical by the defence services, that India conducted a successful A-SAT (anti-satellite) direct ascent test in March 2019, and, in the same year, set up the Defence Space Agency and the Defence Space Research Organisation
- The policy lays out a strategy and then spells out the roles of the Department of Space, ISRO, the Indian National Space Promotion and Authorisation Centre (IN-SPACe) set up in 2020, and the NewSpace India Limited (NSIL), a public sector unit set up in 2019 under the Department of Space as the commercial arm of ISRO to replace the now defunct Antrix
- ISRO shall focus on R&D in advanced technology, proving newer systems and realisation of space objects for meeting national prerogatives”
- ISRO’s tasks in the new policy is to “share technologies, products, processes and best practices with **NGEs (non-government entities)** and/or Government companies”
- As ISRO’s commercial arm, NSIL will become the interface for interacting with the industry, undertake commercial negotiations and provide hand-holding support to ensure smooth and efficient transfer of technologies

5. Private Sector role

- NGEs (this includes the private sector) are “allowed to undertake end-to-end activities in the space sector through establishment and operation of space objects, ground-based assets and related services, such as communication, remote sensing, navigation, etc.”
- Satellites could be self-owned, procured or leased; communication services could be over India or outside; and remote sensing data could be disseminated in India or abroad
- NGEs can design and operate launch vehicles for space transportation and establish their own infrastructure
- The activities of the NGEs will be in keeping with guidelines and regulation to be issued by IN-SPACe
- It is expected to act as the single window agency for authorising space activities “by government entities and NGEs”, in keeping with safety, security, international obligations and overall national interests
- Finally, IN-SPACe is expected to create a “stable and predictable regulatory framework” that will ensure a level playing field for the NGEs. It will act as a promoter by setting up industry clusters and as the regulator, issue guidelines on liability issues

6. Way Forward

The policy sets out an ambitious role for IN-SPACe but provides no time frame for the necessary steps ahead

Neither is there an indicative timeline for ISRO’s transitioning out of its current practices nor is there a schedule for IN-SPACe to create the regulatory framework. The policy framework envisaged will need clear rules and regulations pertaining to FDI and licensing, government procurement to sustain the new space start-ups, liability in case of violations and an appellate framework for dispute settlement. A regulatory body needs legislative authority. The Reserve Bank of India was set up by the 1934 RBI Act, the Securities and Exchange Board of India (SEBI) by the 1992 SEBI Act, and the Telecom Regulatory Authority of India (TRAI) by the 1997 TRAI Act.

IN-SPACe is expected to authorise space activities for all, both government and non-government entities. Currently, its position is ambiguous as it functions under the purview of the Department of Space. The Secretary (Space) is also Chairman of ISRO, the government entity to be regulated by IN-SPACe.

NATIONAL TECHNOLOGY DAY

1. Context

On May 11 every year, we recall the post-independence achievements of India's Science and Technology sector.

This year is special, marking 25 years since we started celebrating **National Technology Day**.

2. Key points

- On the iconic day of May 11, 1998, three very special technological advances were showcased by India's scientists and engineers **Operation Shakti**, also known widely as Pokhran-II nuclear tests; the successful test firing of the **Trishul missile** and the first flight of the **indigenously developed aircraft Hansa**.
- The euphoria of demonstrations of these technologies was such that the then Prime Minister **Atal Bihari Vajpayee** added "**Jai Vigyan** (Hail Science) to **Lal Bahadur Shastri's** Popular Slogan of "**Jai Jawan, Jai Kisan** (Hail the soldier and the farmer).

3. The Culture of Science

- The achievements of May 11, 1998, were founded on the progress of the past 51 years that India's Science and Technology (S&T) sector had made while also contributing significantly to the economy.
- The developments in S&T had already established India as a Pharmaceutical hub of the world, the Indian IT industry was gearing up to not only drive the world's IT-enabled services but also soon drive the digital growth of the country and it appeared that soon, India would break into the world's top economies.
- Vajpayee's push for economic growth led by S&T is reflected in many of his speeches. For example, during a Shanti Swarup Bhatnagar award ceremony, he said, Friends, all of us know that the creation of scientific and technological knowledge and the development of its practical, applications, is highly capital intensive.

- Not only does it involve significant and sustained investment in infrastructure, equipment and raw materials, but also a long-term effort to build and retain top-class brainpower.
- However, every rupee invested in indigenous R&D repays itself several times over in direct and indirect ways.
- Prominent examples of the last point include the development of indigenous varieties of rice by modern and classical methods, which are yielding hundreds of thousands of crores of rupees in international trade.
- This point needs to be emphasised over and over again to contemporary policymakers and bureaucracy, lest we forget the importance of the fundamentals of economic growth led by S & T.

4. After Pokhran

- Since 1998, the country has continued steadily in its journey of technological development.
- Among the visible examples of India's impactful technological progress are the digital payment gateways that have democratised financial transactions like never before and exemplify India's leadership in the world in this area.
- Lesser-known milestones that have quietly been achieved are the making of indigenous BioJet Fuels, mapping of subsurface water channels for sustainable use of water, making of indigenous light combat aircraft, development of a variety of crops by traditional methods of breeding, digitisation of many aspects of the trade and moving firmly towards a Hydrogen economy.
- The recent push for infrastructural development, including the promotion of the use of domestic and industrial waste in it and its spectacular results, is already making headlines.
- By steadily reducing energy dependence on natural resources and by promoting renewable energy, India is already in the League of Nations where its carbon footprint in the energy sector is likely to reduce dramatically.

5. Challenges

- In many areas, including urban infrastructure and planning, containing air, water and soil pollution, slowing down rural to urban migrations,

diversification of agricultural produce, judicious use of water resources and promotion of AI/ML technologies in all industrial segments.

- India's S&T community is expected to address these challenges to meet the aspirations of 1.4 billion Indians and realise the dream of "**Amrit Kaal**".
- Among the concerns widely quoted in holding back India's S&T ecosystem is the lack of adequate investments by private industries in R&D.
- The total expenditure on R&D, approximately 0.6 per cent of its GDP, is almost entirely contributed by public funds.
- Inadequate involvement by state governments in S&T is also a matter of Concern.
- Maharashtra for example, contributes close to 15 per cent of the country's GDP but spends a mere fraction of it on S&T.
- Moreover, private industries' attempt to work in collaboration with academia is typically viewed under the scanner of "**inappropriate**" practices, which not only hampers the work undertaken but also discourages government-supported researchers from undertaking any collaborative work with industries.
- Appropriate frameworks are urgently needed so that collaborations between industry and academia are facilitated at a rapid pace.
- Finally, the time of execution of projects is a luxury that must be shed immediately if we are to accelerate growth led by S&T.
- If India's ambitions of leading the world into a sustainable future, where all human beings live peacefully and in harmony with nature, were to realise, reforms in the bureaucratic system for the management of S&T are an immediate necessity.

General Studies II: Polity

FUNDAMENTAL DUTIES

1. Context

It has been a year since The Supreme Court issued notices to the Centre and states in a writ petition seeking the enforcement of the fundamental duties of citizens as enshrined in the Constitution of India. The petition, filed by advocate Durga Dutt, argues that citizens have a duty to uphold the ideals of the country and to

contribute to its growth and betterment and that not carrying out the fundamental duties of the citizen has a direct bearing on the fundamental rights guaranteed under Articles 14, 19 and 21 of the Constitution.

2. Background

- The original constitution of India contained only the Fundamental Rights and not the Fundamental Duties.
- In 1976, Fundamental Duties were added to the Constitution by the 42nd CAA, 1976. One more FD was added by the 86th CAA 2002, totaling 11 duties.
- Fundamental Duties are inspired by the Constitution of the erstwhile USSR.
- The Japanese Constitution is the only democratic constitution in the world with a list of duties of citizens.
- Supreme Court (1992): In determining the constitutional validity of any law, if the law in question seeks to give effect to FDs, it may consider such law to be 'reasonable' in relation to Art. 14 or Art. 19 and thus save such law from unconstitutionality.
- Paying taxes (Recommended by Swaran Singh) and voting in elections are not included in Fundamental Duties.
- FDs help the courts in examining and determining the constitutional validity of a law.

Fundamental Duties are confined to citizens only & not to foreigners.

3. List of Fundamental Duties

1. To abide by the Constitution and respect the National Flag and National Anthem (Not including the national song).
2. To follow the noble ideals that inspired the struggle for freedom.
3. To protect the sovereignty, unity, and integrity of India.
4. To render national service when called upon to do so.
5. To promote the common spirit of brotherhood amongst all Indians + to renounce practices derogatory to the dignity of women.
6. To preserve the rich heritage of the country's culture.
7. To protect the national environment including forests, lakes, wildlife, etc.
8. To develop a scientific temper, humanism, and spirit of reform and inquiry.
9. To safeguard public property and to abjure violence.
10. To strive towards excellence in all spheres of individuals.

11. To provide an opportunity for education to his child between the age of 6 and 14 years.

4. Important Feature of Fundamental Duties

- Fundamental duties are confined to citizens only & not to foreigners.
- Fundamental duties are non-justiciable by courts. However, parliament can enforce this through suitable legislation.
- The duty to pay taxes and the Duty to vote are not part of Fundamental Duties.
- Verma Committee on Fundamental Duties of the Citizens (1999). Identified the existence of legal provisions for the implementation of some Fundamental Duties. Ex: Wild Life Protection Act, 1972.
- Verma committee recommended reorienting approaches to the school curriculum and teacher education programs and incorporating FDs in higher and professional education.

5. Swaran Singh Committee recommendations

- In 1976, the Fundamental Duties were first recommended by the Swaran Singh committee; its need was felt during the internal emergency (1975-77).
- The 42nd CAA, 1976 added a new part IV-A to the constitution consisting of a single Article 51A, which contains ten fundamental duties of citizens (Presently 11 duties).
- The committee suggested eight Fundamental Duties, the 42nd CAA, 1976 included ten Fundamental Duties.
- Swaran Singh Committee had suggested for penalty or punishment for the non-performance of Fundamental Duties.
- No law imposing such a penalty or punishment shall be called in question in any court.
- Duty to pay taxes should also be a Fundamental Duty of the citizens.

LAWS ON POLYGAMY

1. Context

Assam Chief Minister Himanta Biswa Sarma has said that the state government will move to ban the practice of polygamy through "**legislative action**" and an "**expert committee**" would be formed to examine the issue.

2. Practice of Polygamy

- Polygamy is the practice of having more than one married spouse wife or husband. The issue is governed both by personal laws and the **Indian Penal Code (IPC)**.
- Traditionally, polygamy mainly the situation of a man having more than one wife was practised widely in India. **The Hindu Marriage Act, of 1955** outlawed the practice.

IPC Section 494 (Marrying again during the lifetime of husband or wife) penalises bigamy or polygamy. The section reads: "Whoever, having a husband or wife living marries in any case in which such marriage is void because of its taking place during the life of such husband or wife, shall be punished with imprisonment of either description for a term which may extend to seven years and shall also be liable to fine".

- This provision does not apply to a marriage which has been declared void by a court, for example, a child marriage that has been declared void.
- The law also does not apply if a spouse has been "**continually absent**" for the "**space of seven years**".
- This means a spouse who has deserted the marriage or when his or her whereabouts are not known for seven years, will not bind the other spouse from remarrying.

3. The Second marriage

- Generally, the first wife files a complaint that her husband has remarried.
- The Court will have to look into whether the husband has entered into a legally valid second marriage.
- This means that the second marriage would have to be performed as per prescribed customs and the penal provision will not apply to adulterous relationships that do not qualify as valid marriages under the law.

- In **Kanwal Ram and Ors v The Himachal Pradesh Administration** (1965), the Supreme Court reiterated the legal position that the standard of proof must be of marriage performed as per customs.
- In a **bigamy case**, the second marriage is a fact, that is to say, the ceremonies constituting it must be proved.

Section 495 of the IPC protects the rights of the second wife in case of a bigamous marriage. It reads: "Whoever commits the offence defined in the last preceding section (i.e. Section 494) having concealed from the person with whom the subsequent marriage is contracted, the fact of the former marriage, shall be punished with imprisonment of either description for a term which may extend to ten years and shall also be liable to fine.

4. Under Hindu Law

- After Independence, anti-bigamy laws were adopted by provincial legislatures including Bombay and Madras.
- The **Special Marriage Act, of 1954**, was a radical legislation that proposed the requirement of monogamy subsection (a) of Section 4 of the SMA (Conditions relating to solemnization of special marriages) requires that "at the time of marriage.. neither party has a spouse living".
- Parliament passed the Hindu Marriage Act in 1955, outlawing the concept of having more than one spouse at a time.
- **Buddhists, Jains and Sikhs are also included under the Hindu Marriage code.**
- The **Parsi Marriage and Divorce Act 1936** had already outlawed bigamy.
- Section 5 (Conditions for a Hindu Marriage) of the Hindu Marriage Act lays down that "a marriage may be solemnized between any two Hindus. if. (among other conditions) neither party has a spouse living at the time of the marriage".
- Under Section 17 of the HMA bigamy is an offence, and the provisions of sections 494 and 495 of the Indian Penal Code, 1860, shall apply accordingly.
- However, despite bigamy being an offence, the child born from the bigamous marriage would acquire the same rights as a child from the first marriage under the law.
- A crucial exception to the bigamy law for Hindus is Goa, which follows its code for personal laws.

- So, a Hindu man in the state has the right to bigamy under specific circumstances mentioned in the codes of Usages and Customs of Gentile Hindus of Goa.
- These circumstances include a case where the wife fails to conceive by the age of 25 or if she fails to deliver a male child by the age of 30.
- However, Goa Chief Minister Pramod Sawant has said that the provision for Hindus is virtually "**redundant**" and that no one has been given the benefit of it since 1910.

5. Under Muslim law

- Marriage in Islam is governed by the Shariat Act of 1937.
- Personal law allows a Muslim man to have four wives. To benefit from the Muslim personal law, many men from other religions would convert to Islam to have a second wife.
- In a landmark ruling in 1995, the Supreme Court in **Sarla Mudgal v Union of India** held that religious conversion for the sole purpose of committing bigamy is unconstitutional.
- This position was subsequently reiterated in the 2000 judgment in **Lily Thomas v Union of India**.
- Any move to outlaw polygamy for Muslims would have to be special legislation which overrides personal law protections like in the case of triple talaq.

6. Prevalence of polygamy

- The **National Family Health Survey-5** (2019-20) showed the prevalence of polygamy was 2.1 per cent among Christians, 1.9 per cent among Muslims, 1.3 per cent among Hindus and 1.6 per cent among other religious groups.
- The data showed that the highest prevalence of polygynous marriages was in the Northeastern states with tribal populations.
- A list of 40 districts with the highest polygyny rates was dominated by those with high tribal populations.

General Studies III: Economy

GREEN DEPOSITS

1. Context

Recently, the Reserve Bank of India (RBI) came up with a regulatory framework for banks to accept green deposits from customers. Under the new framework, banks that accept green deposits will have to disclose more information on how they invest in these deposits.

2. What are Green Deposits?

- Green deposits are not very different from the regular deposits that banks accept from their customers. The only major difference is that banks promise to earmark the money that they receive as green deposits towards environment-friendly Projects.
- For example, a bank may promise that green deposits will be used towards financing renewable energy projects that fight climate change.
- A bank may also avoid using green deposits to invest in fossil fuel projects that are considered harmful to the climate.
- A green deposit is just one product in a wide array of other financial products such as green bonds, green shares, etc., that help investors put money into environmentally sustainable projects.

3. Regulatory framework of RBI

- The RBI's framework for the acceptance of green deposits lays down certain conditions that banks must fulfill to accept green deposits from customers.
- Firstly, banks will have to come up with a set of rules or policies approved by their respective Boards that need to be followed while investing green to deposits from Customers.
- These rules need to be made public on the bank's websites and banks will also have to disclose regular information about the amount of green deposits received, how these deposits were allocated towards various green projects, and all the impact of such investments on the environment.
- A third party will have to verify the claims made by banks regarding the projects in which the banks invest their green deposits as well as the sustainability credentials of these business projects.
- The RBI has come up with a list of sectors that can be classified as sustainable and thus eligible to receive green deposits.

- These include renewable energy, waste management, clean transportation, energy efficiency, and afforestation.
- Banks will be barred from investing green deposits in business projects involving fossil fuels, nuclear power, tobacco, gambling, palm oil, and hydropower generation.
- The new rules are aimed at preventing greenwashing, which refers to making misleading claims about the positive environmental impact of an activity.
- For example, a bank may advertise that their green deposits will have a huge positive impact on the environment, while the actual impact may be minimal.
- A bank could also invest in projects that are not environment-friendly, perhaps because such projects offer higher returns, under the guise of green investing.

4. What is the Green Finance Ecosystem?

- It is the financial ecosystem that supports investments in environmentally sustainable projects and activities.
- It includes a plethora of financial products, including green bonds, green loans, green insurance, and green funds.
- It aims to create a low-carbon, resource-efficient, and sustainable economy, while also addressing the risks and opportunities associated with environmental issues such as climate change, pollution, and biodiversity loss.

5. What is the Need?

- It promotes sustainable development and creates a positive impact on the environment.
- India has committed to achieve net zero emissions by 2070.
- Our Green Deal states green finance as an enabler to accelerate decarbonization.
- In 2016, the RBI along with UNEP reported that India is on the lines of sustainable financial systems.

6. Indian Scenario

- India has commenced its journey for carbon neutrality and put forward a Green deal to be achieved by 2070.
- The Green Deal has classified green finance as an enabler to accelerate decarbonization. It emphasizes the need for an increased flow of capital from the national government and private entities to establish green infrastructure.
- In 2016, the RBI released a report in collaboration with UNEP (United Nations Environment Programme) and India on the lines of sustainable financial systems.
- The report explores various facets of financial systems in India and their role in accelerating green finance.
- Carbon trading has been introduced in the policy framework of the country through the 'Perform Achieve and Trade' scheme.
- According to the World Economic Forum, the market for green bonds could be worth more than two trillion dollars by 2023.

LIBERALISED REMITTANCE SCHEME

1. Context

THE CENTRAL Government, in consultation with the Reserve Bank of India, in a late night notification Tuesday amended rules under the Foreign Exchange Management Act, bringing in international credit card spends outside India under the Liberalised Remittance Scheme (LRS)

2. Background

India has come a long way in liberalising foreign exchange transactions for its residents

Before 2004, transferring money overseas was a cumbersome procedure involving numerous approvals from the Reserve Bank of India ('RBI')

The rationale behind these strict regulations was multifold:

First, India closely watched its foreign exchange reserves to maintain a comfortable cushion for meeting its debt and interest obligations

Second, it restricted the outflow of money from the country to prevent destabilisation and devaluation of the rupee

Third, high imports into the country required funding through foreign exchange reserves

In 2004, the Committee on Procedures and Performance Audit on Public Services ('CPPAPS') recommended a scheme for liberalising personal outward remittances

The same year, RBI introduced the Liberalised Remittance Scheme ('LRS'), allowing Indian residents to make individual foreign exchange transactions with relative ease

In the two decades since, LRS has been instrumental in simplifying overseas expenses and investments for Indian residents

In 2021-22, India recorded USD \$19.6 billion in outward remittances under LRS, marking an increase of USD \$7 billion from the previous year

3. Remittances of LRS

LRS allows Indian residents to freely remit up to USD \$250,000 per financial year for current or capital account transactions or a combination of both

Any remittance exceeding this limit requires prior permission from the RBI

Only individual Indian residents are permitted to remit funds under LRS

Corporates, partnership firms, HUF, trusts, etc are excluded from its ambit

However, it is available to minors, provided that Form A2 is countersigned by the minor's natural guardian

4. Permitted types of transactions

4.1. Capital account transactions:

- Opening of foreign currency account abroad with a bank
- Acquisition of immovable property abroad, overseas direct investment (ODI) and overseas portfolio investment (OPI), in accordance with the Foreign Exchange Management (Overseas Investment) Rules, 2022, Foreign

Exchange Management (Overseas Investment) Regulations, 2022 and
Foreign Exchange Management (Overseas Investment) Directions, 2022

Extending loans, including loans in Indian Rupees to non-resident Indians
(NRIs) who are relatives as defined in the Companies Act, 2013

4.2. Current account transactions

1. Private visits abroad (excluding Nepal and Bhutan)
2. Gifts/donations
3. Going abroad on employment
4. Emigration
5. Maintenance of relatives abroad
6. Business trips
7. Medical treatment abroad
8. Pursuing studies abroad

5. Prohibited transactions

Under LRS, the following types of transactions are expressly prohibited:

- 1) Transactions not permissible under Foreign Exchange Management Act, 1999
- 2) Remittance for margins or margin calls to overseas exchanges or overseas counterparty
- 3) Remittances for any purpose specifically prohibited under Schedule I or any item restricted under Schedule II of Foreign Exchange Management (Current Account Transaction) Rules, 2000
- 4) Capital account remittances to countries identified by Financial Action Task Force (FATF) as non-co-operative countries and territories or as notified by RBI

5) Remittances directly or indirectly to those individuals and entities identified as posing significant risk of committing acts of terrorism as advised separately by RBI to the banks

LIBOR

1. Context

Recently, RBI stated that some banks and financial institutions were yet to facilitate an absolute transition away from the **London Interbank Offered Rate (LIBOR)** benchmark.

They had not inserted fallback clauses into all their financial contracts that reference U.S. dollars LIBOR or the corresponding domestic **Mumbai Interbank Forward Outright Rate (MIFOR)**.

Both LIBOR and MIFOR would cease to be a representative benchmark from June 30 this year.

2. About LIBOR

- LIBOR is a global benchmark interest rate that combines individual rates at which banks opine they may borrow from each other (for a particular period) at the London interbank market.
- It is used as a benchmark to settle trades in futures, options, swaps and other derivative financial instruments in over-the-counter markets (participants engaging directly without using an exchange) and on exchanges globally.
- Further, consumer lending products including mortgages, credit cards and student loans, among others, use it as a benchmark rate.
- Every business day before 11 a.m. (London time), banks on the LIBOR panel make their submissions to news and financial data company, Thomson Reuters.
- The panel consists of commercial bankers such as J.P. Morgan Chase (London Branch), Royal Bank of Canada and UBS AG, among others.
- Following the submission, the contributed rates are ranked. On the top and bottom, extreme quartiles are excluded and the middle quartiles are averaged to derive the LIBOR. The idea is to be as close to the median as possible.

3. Controversy

- The central flaw in the mechanism was that it relied heavily on banks, to be honest with their reporting disregarding their commercial interests.
- The rates were made public. Therefore, it would not be particularly useful to impress upon potential and current customers the various disadvantages of obtaining funds.
- The phenomenon was particularly on display during the 2008 financial crisis when submissions were artificially lowered (amid the crisis).
- Another observed phenomenon was the tendency to alter (higher or lower) the submission as per the entity's trading units' derivative positions to acquire more profits.

4. Alternative place

- In 2017 the U.S. Federal Reserve announced the **Secured Overnight Financing Rate (SOFR)** as a preferred alternative.
- Accordingly, in India, new transactions were to be undertaken using the SOFR and the **Modified Mumbai Interbank Forward Outright Rate (MMIFOR)**, replacing MIFOR.
- As stated by the **International Finance Corporation (IFC)**, it is based on observable repo rates, or the cost of borrowing cash overnight, which is collateralised by U.S. Treasury securities.
- Thus, making it a prevailing transaction-based rate and drifting away from the requirement of an expert judgement as in LIBOR. This would make it potentially less prone to market manipulation.

5. Response to the Regime Change

- The RBI has stated in its November 2020 bulletin that, in India, exposures to LIBOR are from loan contracts linked to it and **Foreign Currency NonResident Accounts (FCNRB)** deposits with floating rates of interest and derivatives.
- The banking regulator had asked banks to assess their LIBOR exposures and prepare for the adoption of alternative reference rates.
- Contracts entered after (or before, if possible) December 31, 2021, were not to use the LIBOR as a reference rate.

- More importantly, contracts entered before the date were to have fallback clauses, that is an agreement for revised considerations when the reference rate is no more published important for transparency and consistency.

GOVERNMENT SECURITY AND BONDS

1. Context

The Reserve Bank of India's switch or conversion auction of government securities (G-secs) of Rs 20, 000 crores remained undersubscribed as liquidity remained tight and banks demanded higher yields.

While a total of Rs 30, 498 crores was bid through 116 offers, only 23 were accepted.

Only Rs 10.078 crores were finally accepted, just about 50 per cent of the securities offered.

2. About Government Securities

- Government securities are government debt issuances used to fund daily operations and special infrastructure and military projects.
- They guarantee the full repayment of invested principal at the maturity of the security and often pay periodic coupon or interest payments.
- Government securities are considered to be risk-free as they have the backing of the government that issued them.
- The tradeoff of buying risk-free securities is that they tend to pay a lower rate of interest than corporate bonds.
- Investors in government securities will either hold them to maturity or sell them to other investors on the secondary bond market.

3. Risk of Purchasing foreign government bonds

- The purchase of foreign government bonds also known as **Yankee bonds**.
- It is more complicated because it is associated with political risk along with currency risk, credit risk and default risk to reap greater yields.
- Some bonds will require the creation of offshore accounts and have high minimum investment levels.

- o Also, foreign bonds fall into the category of junk bonds, due to the risk attached to their purchase.

4. Controlling the money supply

- The **Federal Reserve** (the Fed) controls the flow of money through many policies, one of which is the selling of government bonds.
- As they sell bonds, they reduce the amount of money in the economy and push interest rates upward.
- The government can also repurchase these securities, affecting the money supply and influencing interest rates called **Open Market Operations** the Fed buys bonds on the open market, reducing their availability and pushing the price of the remaining bonds up.
- As bond prices rise, bond yields fall driving interest rates in the overall economy lower.
- New issues of government bonds are also issued at lower yields in the market further driving down interest rates.
- As a result, the Fed can significantly impact the trajectory of interest rates and bond yields for many years.
- The supply of money changes with this buying and selling, as well.
- When the Fed repurchases Treasuries from investors, the investors deposit the funds in their bank or spend the money elsewhere in the economy.
- This spending, in turn, stimulates retail sales and spurs economic growth.
- Also, as money flows into banks through deposits, it allows those banks to use those funds to lend to businesses or individuals, further stimulating the economy.

5. Pros and Cons of Buying Government Securities

Pros	Cons
Government securities can offer a steady stream of interest income	Government securities offer a low rate of return relative to other securities
Due to their low default risk, government securities tend to be safe-haven plays	The interest rates of government securities don't usually keep up with inflation
Some government securities are exempt from state and local taxes	Government securities issued by foreign governments can be risky

Government securities can be bought and sold easily

Government securities often pay a lower rate in a rising-rate market

Government securities are available through mutual funds and exchange-traded funds

6. Types of Government Securities

6.1. Savings Bonds

- Savings bonds offer fixed interest rates over the term of the product. Should an investor hold a savings bond until its maturity they receive the face value of the bond plus any accrued interest based on the fixed interest rate.
- Once purchased, a savings bond cannot be redeemed for the first 12 months it is held.
- Also, redeeming a bond within the first five years means the owner will forfeit the months of accrued interest.

6.2. T-Bills

- Treasury bills (T-Bills) have typical maturities of 4, 8, 13, 26 and 52 weeks.
- These short-term government securities pay a higher interest rate return as the maturity terms lengthen.

6.3. Treasury Notes

- Treasury Notes (T-Notes) have two, three, five or 10-year maturities making them intermediate-term bonds.
- These notes pay a fixed-rate coupon or interest payment semiannually and will usually have \$1, 000 face values.
- Two and three-year notes have \$ 5, 000 face values. Yields on T-Notes change daily.

6.4. Treasury Bonds

- Treasury Bonds (T-Bonds) have maturities of between 10 and 30 years. These investments have \$1, 000 face values and pay semiannual interest returns.

- The government uses these bonds to fund deficits in the federal budget.
- Also, as mentioned earlier, the Fed controls the money supply and interest rates through the buying and selling of this product.

AADHAAR ENABLED PAYMENT SYSTEM (AePS)

1. Context

Pushpendra Singh, a popular Youtuber, in a Twitter thread, shared how his mother's bank account was drained using an Aadhaar-linked fingerprint without needing a two-factor authentication. His mother was not informed of the transaction by her bank, via message or otherwise. A quick search on Google reveals that similar incidents have been reported in different parts of the country.

2. What is Aadhaar enabled Payment System (AePS)?

- The Aadhaar-enabled Payment System (AePS) is a bank-led model which allows online financial transactions at Pointofsale (PoS) devices and micro ATMs of any bank using Aadhaar authentication.
- The model removes the need for OTPs, bank accounts, and other financial details.
- It allows fund transfers using only the bank name, Aadhaar number, and fingerprint captured during Aadhaar enrolment, according to the National Payments Corporation of India (NPCI).
- This method offers an additional degree of protection for financial transactions by eliminating the need to provide bank account information while conducting these transactions.
- The Reserve Bank of India (RBI) and the Indian Bank's Association (IBA) collaborated to form the National Payments Corporation of India (NPCI) (IBA).

3. Are AePS enabled by default?

- Neither the Unique Identification Authority of India (UIDAI) nor NPCI mentions clearly whether AePS is enabled by default. Cashless India, a website managed and run by MeitY, says the service does not require any activation, with the only requirement being that the user's bank account should be linked with their Aadhaar number.
- Users who wish to receive any benefit or subsidy under schemes notified under section 7 of the Aadhaar Act, have to mandatorily submit their Aadhaar number to the banking service provider, according to UIDAI. Aadhaar is also the preferred method of KYC for banking institutions, thus enabling AePS by default for most bank account holders.

4. Advantages associated with AePS

- **Bank Decongestion:** It, like other micro-ATM systems, has aided in the decongestion of banks. It's especially beneficial for migratory employees who don't have access to an ATM.
- **Increasing Social Security Benefits:** Following the expansion of cash transfer programs from governments to disadvantaged individuals, will aid in the development of social services.
- **Last-Mile Service Enablement:** It will make payments easier because they would be made at the doorstep rather than having to go vast distances.
- The consumer is not bound to one bank's B.C. because of the interoperable system.
- **Getting rid of the Middlemen:** The exploitative middlemen who preyed on the poor and ignorant would no longer exist.

5. How is biometric information leaked?

- While Aadhaar data breaches have been reported in 2018, 2019, and 2022 the UIDAI has denied any breach of data.
- In response to media reports, the UADAI said that the Aadhaar data, including biometric information, is fully safe and secure.
- However, UIDAI's database is not the only source from where data can be leaked. Aadhaar numbers are readily available in the form of photocopies, and soft copies, and criminals are using Aadhaarenabled payment systems to breach user information.
- Scammers have, in the past, made use of silicone to trick devices into initiating transactions.

6. How do you secure your Aadhaar biometric information?

- The UIDAI is proposing an amendment to the Aadhaar (Sharing of Information) Regulations, 2016, which will require entities in possession of an Aadhaar number to not share details unless the Aadhaar numbers have been redacted or blacked out through appropriate means both in print and electronic form.
- The UIDAI has also implemented a new two-factor authentication mechanism that uses a machine learning-based security system, combining finger minutiae and finger image capture to check the 'liveness' of a fingerprint.
- Additionally, users are also advised to ensure that they lock their Aadhaar information by visiting the UIDAI website or using the mobile app.
- This will ensure that their biometric information, even if compromised, can not be used to initiate financial transactions.
- It can be unlocked when the need for biometric authentication arises, such as for property registration and passport renewals, after which it can again be locked.

7. What can be done in case of a financial scam using Aadhaar?

- If users have not already locked their Aadhaar biometric information, they should do so immediately in case of any suspicious activity in their bank accounts.
- Users are also advised to inform their banks and the concerned authorities as soon as possible.
- Timely reporting can ensure that any money transferred using fraudulent means is returned to the victim.
- The RBI in a circular has stated that a customer's entitlement to zero liability arises when an unauthorized transaction occurs, and the customer notifies the bank within three working days of receiving a communication from the bank regarding such an unauthorized transaction.

ECONOMICS OF CLIMATE CHANGE

1. Context

Over the past few weeks and months(2023 Summer), there have been several stories about how extreme weather events (Such as unexpected rainfall or unusually high temperatures) have disrupted normal life in India. There is also a constant reminder that more of the same can be expected with each passing year.

2. Global Climate Risk Index

- The Global Climate Risk Index 2021 ranked India seventh in the list of most affected countries in terms of exposure and vulnerability to climate risk events.
- In its latest report on currency and finance, the RBI (India's central bank) has a chapter dedicated to answering many of these questions and explaining the macroeconomic effects of climate change in India.

3. The evidence of climate change

- The most obvious signs of climate change are anomalies in temperature and precipitation (rain, hail, snow etc.)
- The average annual temperature in India. While annual average the temperature in India has been increasing gradually, the rise has been significantly sharper during the last vicennial (twenty years) than during any other 20-year time interval since 1901 finds the RBI paper.

4. RBI research on annual rainfall

- Similarly, the southwest monsoon, too, has been becoming more erratic.
- According to the RBI research, Notably, while the average annual rainfall at the all-India level during the last vicennial (2000-2020) saw a rise over that during 1960-1999, over a longer time horizon since 1901, annual average rainfall in India has gradually declined.
- Moreover, evidence suggests that while dry spells have become more frequent during the last several years, intense wet spells have also increased.
- Research about natural disasters since 1975 has shown that India is relatively more exposed to floods and storms (i.e. cyclones and hailstorms) than droughts and heatwaves.
- Such incidences pose significant risks to agricultural production and food price volatility.

Vulnerability of India's climate change There are two ways to analyse this.

1. By looking at India's geographical attributes
2. By looking at the structure of India's economy.
 - India's diverse topography is not only exposed to different temperature and precipitation patterns but also makes it vulnerable to extreme weather events posing wide-ranging spatial and temporal implications for the economy.
 - India's economic structure has undergone a considerable change since Independence.
 - As such, the bulk of the economic activity now happens in the services sector as against the agriculture and allied sectors.
 - This has significant implications for carbon emissions because services are "globally considered to be emission-light with the relatively lower energy intensity of output.
 - The sectoral break-up shows that metal industries, electricity and transport are all highlighted are the highest emission-intensive sectors, together accounting for around 9 per cent of India's total GVA (gross value added) in 2018-19.
 - The sectoral composition of the Indian economy helps reduce its carbon emissions.
 - However, notwithstanding this, fossil fuels have an overwhelmingly large share in India's primary energy consumption and this fact needs to change.

5. The macroeconomic impact of climate change on India

- Climate change can adversely impact both the supply side (read the productive potential) as well as the demand side.
- It can stoke inflation, reduce economic output, trigger uncertainty and change consumer behaviour.
- Over the years, there have been several predictions and assessments made about the impact of climate change on India's economy.

1. According to Niti Aayog in 2019, around 600 million of India's population are facing severe water stress, with 8 million children below 14 years in urban India at risk due to poor water supply.

2. The World Bank in 2020 said that India could account for 34 million of the projected 80 million global job losses from heat stress-associated productivity decline by 2030.

3. The IPCC Working Group in 2022 stated that India is one of the most vulnerable countries globally in terms of the population that would be affected by the sea level rise. By the middle of the present century, around 35 million people in India could face annual coastal flooding, with 45-60 million at risk by the end of the century.

6. Categories of climate change

- Typically the risks from climate change are categorised in two main ways.
- One is the **physical risks** and these include chronic issues (such as a gradual and sustained change in temperature and precipitation) as well as acute events such as extreme weather occurrences).
- The second category of risks is called **transition risks**; simply put, these refer to economy-wide changes arising from the transition towards a low-carbon economy. This is best encapsulated by a paradox called "success is failure".
- If the shift towards becoming a low-carbon economy is too rapid, it could materially damage a country's financial stability.

7. Policy insights

- The Network of Central Banks and Supervisors for Greening the Financial System (NGFS) have created an analytical framework called the National Institute Global Econometric Model (NIGEM) "to produce policy insights".
- In this model, the researchers looked at how GDP growth rate and inflation would be affected under six different policy stances when compared to the baseline.
- However, global scenarios of "current policies" and "nationally determined contributions (or NDCs) have the highest negative impact on output, whereas rapidly moving towards Net Zero by 2050 will contain the hit to GDP.
- The impact on inflation. Here the story is slightly more complicated. Moving towards net zero by 2050 will spike inflation far more in the immediate future than continuing on current policies.

- Overall, these trade-offs will become sharper as India tries to achieve the twin goals of achieving net zero emissions by 2070 and becoming an advanced economy by 2047.

GST COMPLIANCE MEASURES

1. Context

In two significant measures to curb tax evasion and increase compliance under the Goods and Services Tax (GST) regime, the government has decided to lower the threshold for businesses to generate e-invoices for business-to-business (B2B) transactions, from Rs 10 crore to Rs 5 crore, and has rolled out the automated return scrutiny module for GST returns in a backend application for central tax officer.

2. What is the automated return scrutiny model?

- It aims to enhance tax compliance, reduce manual intervention and increase tax administration efficiency by using data analytics.
- The Automated Return Scrutiny Module, integrated into the ACES-GST backend application, leverages data analytics to identify risks and discrepancies in GST returns.
- Tax officers can scrutinize GST returns of Centre Administered Taxpayers selected based on data analytics and risks detected by the system. The module automatically generates alerts in cases of non-compliance.
- The Automated Return Scrutiny Module's implementation has begun with the scrutiny of GST returns for the financial year 2019-20
- It was implemented by The Central Board of Indirect Taxes and Customs (CBIC).

3. What are the changes for e-invoicing?

- The government has also lowered the threshold for businesses to generate e-invoices for business-to-business (B2B) transactions to Rs 5 crore from Rs 10 crore under GST.
- The changes will come into effect from August 1.

- In a notification dated May 10, the Finance Ministry announced a lowering of the threshold for e-invoicing. At present, businesses with a turnover of Rs 10 crore and above are required to generate e-invoices for all B2B transactions.

4. What does e-invoicing envisage?

- The GST Council in its 37th meeting in September 2019 approved the standard of e-invoice with the primary objective to enable interoperability across the entire GST ecosystem.
- Under this, a phased implementation was proposed to ensure a common standard for all invoices, that is, an e-invoice generated by one software should be capable of being read by any other software, and through machine readability, an invoice can then be uniformly interpreted.
- With a uniform invoicing system, the tax authorities can pre-populate the return and reduce reconciliation issues.
- With a high number of cases involving fake invoices and fraud availing of the input tax credit, GST authorities have pushed for the implementation of this e-invoicing system which is expected to help to curb the actions of tax evaders and reduce the number of frauds as the tax authorities will have access to data in real-time.
- E-invoicing was initially implemented for large companies with turnover of over Rs 500 crore, and within three years the threshold has now been lowered to Rs 5 crore.
- E-invoicing for B2B transactions was made mandatory for businesses with a turnover of over Rs 500 crore from October 1, 2020.
- Then it was extended to businesses with a turnover of over Rs 100 crore from January 1, 2021, after which it was extended to businesses with a turnover of over Rs 50 crore from April 1, 2021, and then the threshold was lowered to Rs 20 crore from April 1, 2022.
- It was further reduced to Rs 10 crore from October 1, 2022.

5. Goods and Service Tax

- The GST aims to streamline the taxation structure in the country and replace a gamut of indirect taxes with a singular GST to simplify the taxation procedure.
- It has been established by the 101st Constitutional Amendment Act.

- It is an indirect tax for the whole country on the lines of "one nation one tax to make India a unified market.
- The Goods and service tax (GST), rolled out in July 2017, marked a major shift from the traditional production-linked tax to a consumption-based tax.
- The new regime subsumed state levies such as VAT, sales tax, and Octroi/entry tax together with central levies such as central excise and service tax.
- States gave up some of their taxation rights instead of the Centre passing on their revenue share under GST and also compensating them for potential revenue losses in the first five years.
- It is levied on the value addition and provides set-offs. As a result, it avoids the cascading effect of tax on tax which increases the tax burden on the end consumer.

General Studies III: Science & Technology

ASTR

1. Context

- The Department of Telecommunications (DoT) has developed an artificial intelligence-based facial recognition tool that it claims has the capability of running checks on subscriber databases of telecom operators to deduce whether it contains multiple connections associated with the same person.
- The DoT claims the tool called **Artificial Intelligence and Facial Recognition powered Solution for Telecom SIM Subscriber Verification (ASTR)** can potentially bring down cyber frauds by detecting and blocking possible fraudulent mobile connections.

2. The origins of ASTR

- In 2012, DoT issued an order to all telecom operators that they would have to share their subscriber database including users' pictures with the department.
- These images constitute the core database on which authorities are running their **facial recognition algorithm** using ASTR.
- The ASTR project was conceptualised and designed between April 2021 and July by the DoT's unit in Haryana.

- A pilot project was launched in Haryana's Mewat region to test ASTR's feasibility.
- It is understood that before the ASTR pilot project, there were approximately 16.69 lakh SIMs in Mewat, of which close to 5 lakh SIMs across all telecom operators were detected to be fraudulent.

3. Working on ASTR

- Human faces in Subscribers' images are encoded using convolutional neural network (CNN) models to account for the tilt and angle of the face, opaqueness and dark colour of the images.
- After that, a face comparison is carried out for each face against all faces in the database and similar faces are grouped under one directory.
- Two faces are concluded to be identical by ASTR if they match to the extent of at least 97.5 per cent.
- As per Jakhar's paper, ASTR is capable of detecting all SIMs against a suspected face in less than 10 seconds from a database of 1 crore images.
- Once the faces are matched, ASTR's algorithm uses what it describes as "**fuzzy logic**" to find similarities or approximate matches for the subscriber names. To take a random example of a name, if one were to look up "**Apple Inc.**" the algorithm will produce related results including "**Apple Incorporated**", Apple Park, iPhone etc.
- It also accounts for any typographical errors that might have occurred while the subscriber acquisition form was being filled.

The DoT allows an individual to take nine legitimate mobile phone connections using a single identity proof. In essence, What the ASTR does is

1. It looks up if there are more than nine connections against a single individual's photograph
 2. It runs a search through the database to see if the same person has taken SIMs under different names.
- During a press briefing on May 16, 2023, the Minister of Communications said that in one case, ASTR had detected as many as 6, 800 connections against the same image of the subscriber that is, the same face, but different names.

- In another case, 5,300 connections were found to have been taken against a single image.

4. What happens next

- Once the DoT has determined that a set of numbers have been obtained by people through fraudulent means, it shares a list of those connections with telecom operators to block.
- According to the Ministry of Communication, an analysis of more than 87 crore mobile connections was carried out using ASTR in the first phase, where more than 40 lakh cases of people using a single photograph to obtain mobile connections were detected.
- After "**due verification**", more than 36 lakh connections were discontinued by telecom operators.
- The same list is also shared with banks, payment wallets and social media platforms for disengaging these numbers from their respective platforms.
- Whatsapp had "coordinated with the Centre in disabling accounts created using such numbers. The government is working with other social media platforms as well.

LIQUOR

1. Context

As of 10 p.m. on May 16, as many as 22 people had died after consuming spurious liquor in the Chengalpattu and Villupuram districts of Tamil Nadu, while more than 30 others were still being treated in hospitals. The incidents occurred barely a month after the State government said that it had brought such deaths under control.

2. What is the alcohol in liquor?

- Liquor is differentiated by its alcohol content from the 5% or so of beer to the 12% or so of wine to the 40% or so of distilled spirits (all by volume).

- In the beverages consumed for recreational purposes, the alcohol in question is almost always ethanol.
- Technically, in this context, ethanol is a psychoactive drug that, in low doses, reduces the level of neurotransmission in the body, leading to its typically intoxicating effects.
- Contrary to popular belief, the World Health Organization has found that “no level of [its] consumption is safe for our health”.
- Longterm use leads to dependence, heightens the risk of some cancers and heart disease, and may eventually cause death.
- Ethanol (C₂H₅OH) is one carbon atom bonded to three hydrogen atoms and one more carbon atom; the second carbon atom is also bonded to two hydrogen atoms and the hydroxyl group, also known as the ion OH⁻.
- Inside the body, it is metabolized in the liver and the stomach by alcohol dehydrogenase (ADH) enzymes to acetaldehyde.
- Then aldehyde dehydrogenase (ALDH) enzymes transform the acetaldehyde into acetate.

The adverse effects of alcohol consumption, from the hangover to cancer, are due to acetaldehyde.

3. What is Spurious Liquor?

- Spurious liquor is characterized by a liquid mixture containing methanol as well.
- The police have thus far determined that the spurious liquor in both the Chengalpattu and Villupuram incidents arose from the same source, and that arrack sellers had purchased industrialgrade methanol from factories and sold it to the victims. (Arrack is distilled from the fermented sap of the palm tree.)
- In many older cases, such liquor is typically a homemade liquor, such as arrack, to which methanol was added to strengthen the intoxicating effects (in colloquial parlance, its kick) and/or to increase its bulk volume.
- The Food Safety and Standards (Alcoholic Beverages) Regulations 2018 stipulate the maximum permissible quantity of methanol in different liquors.
- These values span a wide range, including “absent” in coconut fenny, 50 grams per 100 liters in country liquor, and 300 grams per 100 liters in pot-distilled spirits.

4. What is Methanol?

- The methanol molecule (CH_3OH) consists of one carbon atom bonded with three hydrogen atoms and one hydroxyl group.
- Schedule I of the Manufacture, Storage, and Import of Hazardous Chemical Rules 1989 includes methanol.
- The Indian standard IS 517 applies to how the quality of methanol is to be ascertained, and together with the Tamil Nadu Denatured Spirit, Methyl Alcohol, and Varnish (French polish) Rules 1959, what signage, and methanol packaging should carry.
- The most common way to produce methanol is to combine carbon monoxide and hydrogen in the presence of copper and zinc oxides as catalysts of 50100 atm of pressure and 250°C .
- In the preindustrial era, going back to ancient Egypt, people also made methanol (together with several other byproducts) by heating wood to a very high temperature.
- Methanol has several industrial applications, including as a precursor to acetic acid, formaldehyde, and aromatic hydrocarbons.
- It is also used as a solvent and as an antifreeze. In Tamil Nadu, the manufacture, export, import, storage, and sale of methanol require licenses under the 1959 Rules.

5. How does Spurious Liquor Kill?

- The deadline for spurious liquor arises from methanol. In every hooch tragedy in the history of India and of the world since 1945 the poison has been methanol.
- The human body contains infinitesimal quantities of methanol (4.5 ppm in the breath of healthy individuals, as per a 2006 study) as a result of eating some fruits.
- But even for an adult, more than 0.1 ml of pure methanol per kilogram of body weight can be devastating.
- Once ingested, methanol is metabolized in the liver by ADH enzymes to form formaldehyde (HCHO).
- Then ALDH enzymes convert formaldehyde to formic acid (HCOOH). The accumulation of formic acid over time leads to a baneful condition called metabolic acidosis.
- Acidosis can lead to acidemia, a condition wherein the blood's pH drops below its normal value of 7.35, becoming increasingly acidic.

- The blood's pH is normally maintained by a balance between an acid-like carbon dioxide, and a base, like the bicarbonate ion (HCO_3^-).
- As methanol is metabolized, the concentration of the bicarbonate ion drops, leading to acid gaining the upper hand.
- Formic acid also interferes with an enzyme called cytochrome oxidase, which in turn disrupts cells' ability to use oxygen and leads to the buildup of lactic acid, contributing to acidosis.

6. Treatment

- Once methanol is ingested, the body takes some time to eliminate it. One estimate suggests that as much as 33% is still left behind after 48 hours.
- It is completely absorbed via the gastrointestinal tract and the blood methanol level can reach its maximum value within 90 minutes.
- There are two immediate ways to treat methanol poisoning. One is to administer ethanol (of a pharmaceutical grade, by healthcare workers).
- This may sound counterintuitive but ethanol competes very well with methanol for the ADH enzymes. As a result, the methanol is kept from being metabolized to formaldehyde.
- The other option is to administer an antidote called fomepizole, which has a similar mechanism it slows the action of the ADH enzymes, causing the body to produce formaldehyde at a rate that the body can quickly excrete, preventing the deadlier effects from kicking in.
- Both courses of action are limited by the availability of their characteristic compounds. Fomepizole is expensive whereas Pharmaceuticalgrade ethanol needs to be administered under supervision.
- Healthcare workers may also have the individual undertake a dialysis to remove methanol and formic acid salts from the blood and litigate damage to the kidneys and retina.
- They may also administer folinic acid, which encourages the formic acid to break up into carbon dioxide and water. Both fomepizole and folinic acid are in the WHO's list of essential medicines.

TRANSFORMER

1. Introduction

- Machine learning (ML), A Subfield of artificial intelligence, teaches computers to solve tasks based on structured data, language, audio, or images, by providing examples of inputs and the desired outputs.
- This is different from traditional computer programming, where programmers write a sequence of specific instructions.
- Here, the ML model learns to generate desirable outputs by adjusting its many knobs often in the millions.
- ML has a history of developing methods with handcrafted features that may work only for specific, narrow problems.
- There are several such examples. In the text, classifying a document as scientific or literary may be solved by counting the number of times certain words appear.
- In audio, spoken text is recognised by converting the audio into a time-frequency representation.
- In images, a car may be found by checking for the existence of specific carlike edge-shaped patterns.
- Such handcrafted features are combined with simple or shallow, learning classifiers that typically have up to tens of thousands of knobs. In technical parlance, these knobs are called parameters.

2. Deep neural networks

- In the first part of the 2010s, **deep neural networks** (DNNs) took over ML by storm, replacing the classic pipeline of handcrafted features and simple classifiers.
- DNNs ingest a complete document or image and generate a final output, without the need to specify a particular way of extracting features.
- While these deep and large models have existed in the past, their large size and millions of parameters hindered their use.
- The resurgence of DNNs in the 2010s is attributed to the availability of large-scale data and fast parallel computing chips called graphics processing units.
- Furthermore, the models used for text or images were still different recurrent neural networks were popular in language understanding while **convolutional neural networks** (CNNs) were popular in computer vision, that is, machine understanding of the visual world.

3. Attention Is All You Need

- In a pioneering paper entitled "Attention Is All You Need" that appeared in 2017, a team at Google proposed transformers a DNN architecture that has today gained popularity across all modalities (image, audio and language).
- The original paper proposed transformers for the task of translating a sentence from one language to another, similar to what Google Translate does when converting a sentence from, say English to Hindi.
- A transformer is a two-part neural network. The first part is an "encoder: that ingests the input sentence in the source language (English) and the second part is a "decoder" that generates the translated sentence in the target language (Hindi).
- The encoder converts each word in the source sentence to an abstract numerical form that captures the meaning of the word within the context of the sentence and stores it in a memory bank.
- Just like a person would write or speak, the decoder generates one word at a time referring to what has been generated so far and looking back at the memory bank to find the appropriate word.
- Both these processes use a mechanism called "attention", hence the name of the paper.
- A key improvement over previous methods is the ability of a transformer to translate long sentences or paragraphs correctly.
- The adoption of transformers subsequently exploded. The capital "T" in **ChatGPT**, for example, stands for "transformer".
- Transformers have also become popular in computer vision as they simply cut an image into small square patches and line them up, just like words in a sentence.
By doing so, and after training on large amounts of data, a transformer can provide better results than CNNs.
- Today, transformer models constitute the best approach for image classification, object detection and segmentation, action recognition and a host of other tasks.
- Transformers' ability to ingest anything has been exploited to create joint vision and language models which allow users to search for an image, describe one and even answer questions regarding the image.

4. Attention

- Attention in ML allows a model to learn how much importance should be given to different inputs.

- In the translation example, attention allows the model to select or weigh words from the memory bank when deciding which word to generate next.
- While describing an image, attention allows models to look at the relevant parts of the image when generating the next word.
- A fascinating aspect of attention-based models is their ability for self-discovery, by parsing a lot of data.
- In the translation case, the model is never told that the word 'dog' in English means kutta in Hindi.
- Instead, it finds these associations by seeing several training sentence pairs where "dog" and kutta appear together.
- A similar observation applies to image captioning. For an image of a "bird flying above water", the model is never told which region of the image corresponds to "bird" and which "water".
- Instead, by training on several image caption pairs with the word "bird", it discovers common patterns in the image to associate the flying thing with "bird".
- Transformers are attention models on steroids. They feature several attention layers within the encoder, to provide meaningful context across the input sentence or image and from the decoder to the encoder when generating a translated sentence or describing an image.

5. The billion and trillion scale

- In the last year, transformer models have become larger and trained on more data than before.
- When these colossuses train on written text, they are called **large language models** (LLMs).
- ChatGPT uses hundreds of billions of parameters whereas GPT 4 uses hundreds of trillions.
- While these models are trained on simple tasks, such as filling in the blanks or predicting the next word, they are very good at answering questions, creating stories, summarising documents, writing code, and even solving mathematical word problems in steps.
- Transformers are also the bedrock of generative models that create realistic images and audio.
- Their utility in diverse domains makes transformers a very powerful and universal model.

- However, there are some concerns. The scientific community is yet to figure out how to evaluate these models rigorously.
- There are also instances of "hallucination", whereby models make confident but wrong claims. We must urgently address societal concerns, such as data privacy and attribution to creative work, that arise as a result of their use.
- At the same time, given the tremendous progress, and ongoing efforts to create guardrails guiding their use and work on leveraging these models for positive outcomes (for example in health care, education and agriculture), optimism would not be misplaced.

MERCURY IN RETROGRADE

1. Introduction

- Mercury is the closest planet to the Sun, whipping around our star every 88 days compared to Earth's 365.25 days.
- Mercury will also be the first planet destroyed when the Sun expands on its way to becoming a red giant in about 5 billion years.
- So it seems a bit rough that we blame Mercury for all our Problems three to four times a year when it's in **retrograde**.

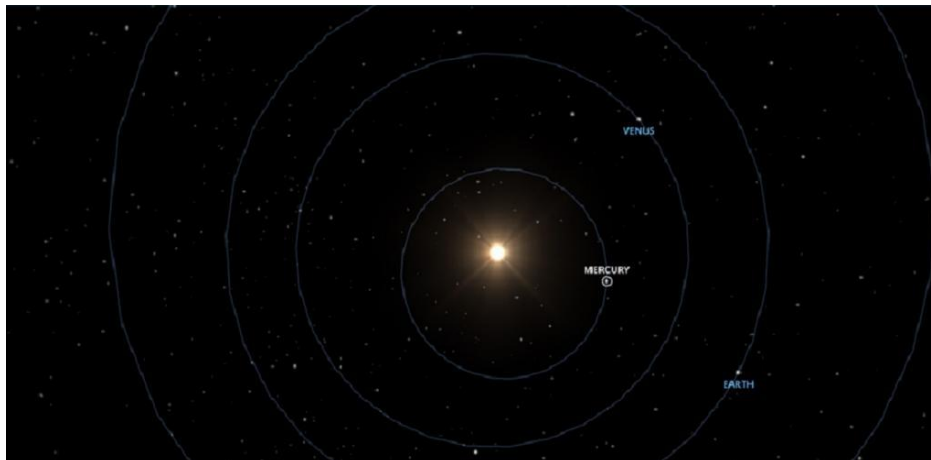


Image source: Down to Earth

2. A matter of Orbits

- Retrograde motion means a planet is moving in the opposite direction to normal around the Sun.
- However, the planets never actually change direction. What we are talking about is apparent retrograde motion, when to us on Earth it looks like a planet is moving across the sky in the opposite direction to its usual movement.
- Because Mercury is closest to the Sun and has the fastest orbit, it appears to move backwards in the sky more often than any other planet.
- Let's use A Dog Astro to help explain what's happening when we see a planet in retrograde.
- Astro is a whippet or a mini-greyhound and he needs speed. If I take Astro for a run on my local cricket oval, he does super-speed laps on the inside while I run much more slowly around the outside.
- If we are both going anti-clockwise around the cricket pitch, when Astro is on the opposite side of the oval to me it looks like he's going left while I'm jogging right.
- But when he gets to the same side of the oval as me, it suddenly looks like he's running right instead of left (retrograde).
- This happens because Astro is going much faster than me, and is inside my "orbit" of the oval.

Image Source: Down to Earth

- Because Mercury's orbit is inside Earth's orbit, seeing it from our planet is like me watching Astro run.
- But Mercury is not the only planet to do this. **Venus** also orbits inside our orbit of the sun, zipping around once every 224.7 days. This means Venus is in retrograde twice every three years.

3. The other retrograde

- It works the other way around, too. The planets outside our orbit (**Mars, Jupiter, Saturn, Uranus and Neptune**) also go into retrograde.

- To work this out, we need to swap our perspectives. Astro is not a deep thinker, but let's imagine for a moment what he is and think about what he sees as he runs around the oval.
- He's running around the oval and he starts catching me up from behind. At this moment it seems like we are both going in the same direction, to the right.
- But as he starts to pass me, it seems like I'm going backwards or left (retrograde) while he continues to run forwards to the right.
- This is what happens when we look up at the sky and see one of the outer planets in retrograde.
- Mars is in retrograde once every two years. The other planets are so far from the Sun and travelling so slowly compared to Earth that it's almost like they are standing still.
- So we see them in retrograde approximately once a year as we whip around the Sun so much faster than they do.

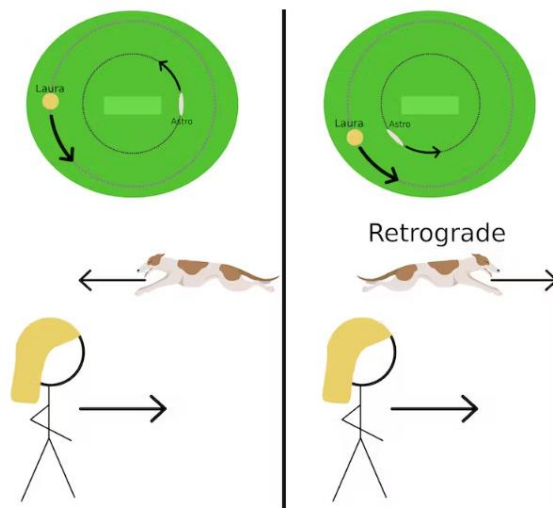


Diagram of me (Laura) and Astro running around the oval, from my point of view. At the top we can see the top-down view of the oval. At the bottom we can see the side-on view. From my point of view it looks like Astro is running right-to-left when he's on the opposite side of the oval to me, but it looks like he's running left-to-right when he's on the same side of the oval to me. Laura Driessen (author provided)

Image Source: Down to Earth

4. Illusion

- Retrograde motion bamboozled ancient astronomers since humans started looking up in space, and we only officially figured it out when Copernicus

proposed in 1543 that the planets are orbiting the Sun (though he was not the first astronomer to propose this heliocentric model).

- Before Copernicus, many astronomers thought Earth was the centre of the universe and the planets were spinning around us.
- Astronomers like Apollonius around 300 BCE saw the planets going backwards and explained this by adding more circles called epicycles.
- So, humans found out retrograde motion was an optical illusion 500 years ago. However, the pseudoscientific practice of astrology continues to ascribe a deeper meaning to this illusion.

5. Frequency of the Retrograde

- If we consider the seven planets other than Earth, at least one planet is in retrograde for 244 days of 2023 that's around two-thirds of the year.
- If we include the dwarf planets **Pluto and Ceres** (and exclude the other seven dwarf planets in the Solar System) at least one planet or dwarf planet is in retrograde for 354 days of 2023, leaving only 11 days without any retrograde motion.
- I like to think the biggest impact the planets have on Earth is bringing wonder and joy every time we turn our eyes (and our telescopes) to the night sky.
- Astro, on the other hand, is happy as long as he gets to run around the oval and bark at possums.

General Studies III: Security Issues

DRUG TRAFFICKING

1. Introduction

- The narcotics trade is assuming dangerous proportions all over the world.
- It is a social problem that harms youth and families and the money it generates is diverted for disruptive activities that have bearings on national security.
- The issue has kept security agencies and law enforcement agencies on the tenterhooks. India is no exception.

2. Key points

- Traditionally India has been seen as sandwiched between the Death (Golden) Crescent and Death (Golden) Triangle.
- The country is being flooded with drugs, especially **heroin and methamphetamine**, from these two regions by drug lords indirectly supported by intelligence setups.
- Nearly 90 per cent of the world's demand for these drugs is being met from these two regions.
- India is both a big market and a transit route for other countries. Money generated in this **illicit trade** is phenomenal.
- There are indications that parts of Pakistan adjoining Afghanistan are also used by Pakistani drug traffickers to convert Afghan **opium to heroin**.
- The Shan and Kachin provinces of Myanmar bordering China also pose challenges.
- These heroin and methamphetamine-producing areas have porous borders and are, reportedly, under the control of rebel groups, indirectly supported by the Chinese.
- Illicit arms are manufactured here and supplied to underground groups active in India.

3. Recent developments

- The maritime route has also become very active after the recent developments in Jammu and Kashmir.
- The use of **drones** to supply drugs and weapons across the border in Punjab is a new phenomenon and law enforcement agencies are working out strategies to neutralise this.
- The **Indian Coast Guard (ICG)**, in conjunction with the intelligence agencies, has been making big seizures frequently.
- ICG has developed a good synergy not only with the security agencies but also with the coast guards of Sri Lanka, Maldives and Bangladesh.
- It seized 2, 160 kgs of meth in two different instances recently near the Andaman and Nicobar Islands. The drugs were destined for Thailand from Myanmar.

- Investigations have indicated the connection of drug traffickers from across borders with terrorist organisations like **Lashkar-e-Toiba and Hizbul Mujahideen**.
- The illegal money is used for terror activities sponsored by the **ISI**.

4. Links with terrorists

- India has surprisingly also become a hot destination for cocaine, the supply of which is controlled by South American drug cartels.
- Recent investigations have revealed the connection of these cartels with NRIs based in Canada, Australia, Singapore, Hong Kong and several European countries along with local drug lords and gangsters in India, who have links with Khalistani terrorists and the ISI in Pakistan.
- The role of the fugitive Don Dawood Ibrahim and his gang has been under scanner.
- Studies reveal that 62 per cent of the darknet is being used for illicit drug trafficking.
Darknet markets are disrupting traditional drug markets because of their anonymity and low risks.
- **Cryptocurrency** payments and doorstep deliveries, through courier services, have made darknet transactions attractive.
- Concerted and coordinated efforts of all the agencies will be required to tackle this growing threat.
- The success rate in catching traffickers using the darknet has been very low the world over.
- However, in January-February, the **Narcotics Control Bureau** busted an organised racket of darknet vendors and arrested several Indian nationals.
- Their international counterparts were exposed for the first time. Technical surveillance followed by basic policing methods led to the seizure of large consignments of drugs and the arrest of the gang.
- The operation exposed various international connections. Drug cartels all over the world are networked and are using the darknet in a big way for trafficking narcotics, especially **pharmaceutical opioids or Synthetic drugs** made in labs using **deadly chemical precursors**.

- A new trend has emerged wherein organised gangs, which primarily used to carry out extortion activities in their local areas, are getting hooked to this network and are being used for drug trafficking and gun running.
- Quick and more money attracts them to such activities but knowingly or unknowingly they are getting into the trap of ISI and Khalistani elements settled abroad, especially in Canada, Germany, the UK, USA.
- It is easier for these terrorist groups to use these networks because they get ready-made logistics to carry out their activities.
- The nexus between terrorists and organised gangs or the underworld is a new and disturbing trend, which has to be tackled effectively by security agencies.

STORM SHADOW CRUISE MISSILE

1. Context

The United Kingdom will provide long-range Storm Shadow cruise missiles to Ukraine, which it has been requesting in a bid to push back invading Russian forces, British Defense Secretary Ben Wallace told Parliament

The weaponry is the latest addition to the long list of **military aid** given to Kyiv by its Western allies. Ukraine has so far received a wide variety of weapons and ammunition, including anti-tank missiles, anti-aircraft systems and artillery, since **Russia invaded** it in February 2022



Source: BBC

2. About Storm Shadow cruise missile

- Storm Shadow is a long-ranged, air-launched, conventionally armed, deep-strike missile, which is manufactured by the France-based MBDA Missile Systems
- It was first produced after the “UK Ministry of Defence (MoD) placed a €1.13bn contract with MBDA Systems for the development and production of the Storm Shadow long-range missile in 1997.”
- The same year, France also commissioned MBDA to develop and manufacture Storm Shadow for its forces
- The demand for the missile quickly rose as in the following years other countries like Italy and Greece placed orders for the missile
- **It has a range of more than 250 km, Storm Shadow weighs 1,300 kg and is 5.10m long**
- It's capable of being operated day and night in all weathers and designed to destroy high-valued stationary targets such as airbases, radar installations, communications hubs and port facilities
- Storm Shadow, equipped with the fire and forget technology, also offers high precision deep strike capability as it features a sophisticated navigation system that includes inertial navigation (INS), global positioning system (GPS) and terrain reference navigation for better control over the path

- The missile features the BROACH (Bomb Royal Ordnance Augmented CHarge) warhead a high-technology warhead, which first cuts the surface of the target, penetrates into it and then explodes
- According to MBDA, Storm Shadow is operated from Eurofighter Typhoon, Rafale, Mirage 2000 and Tornado

3. Way forward

Experts suggest Storm Shadow missiles could bolster Ukraine's much anticipated counter-offensive

An analysis published in The Telegraph said owing to the long range of the weapon it would enable Ukrainian forces to strike targets virtually anywhere across Russia

Most significantly, however, the Ukrainians could use Storm Shadow to destroy the Kerch Bridge that connects Crimea to the Russian mainland.

INDIA'S JOURNEY TO BECOME NUCLEAR POWER

1. Context

India successfully conducted three nuclear bomb test explosions at the testing site in Pokhran on May 11, 1998. It completes 25 years and While these tests caused an international outcry at the time, they cemented India's status as a nuclear power.

2. Homi J Bhabha (The man behind India's Nuclear Programme)

- India's nuclear program can be traced to the work of physicist Homi J Bhabha. In 1945, after Bhabha's successful lobbying of India's biggest industrial family, the Tata Institute of Fundamental Research was opened in Bombay.
- TIFR was India's first research institution dedicated to the study of nuclear physics.

- Post-independence, Bhabha repeatedly met and convinced Prime Minister Jawaharlal Nehru about the importance of nuclear energy and the need for India to allocate resources for its development.
- Thus, in 1954, the Department of Atomic Energy (DAE) was founded, with Bhabha as director.
- While Nehru publicly opposed nuclear weapons, privately, he had given Bhabha a free hand to lay the foundations for both civilian and military uses of nuclear technology.
- Under him, the DEA operated with autonomy and away from significant public scrutiny.

3. The threat of China and Pakistan

- A pivotal moment in India's nuclear journey came after it suffered a crushing defeat in the 1962 Sino-Indian War and China's subsequent nuclear bomb test at Lop Nor in 1964.
- Concerned about India's sovereignty and the looming might of an unfriendly China, the mood in the political establishment towards nuclear weapons was slowly shifting.
- While new Prime Minister Lal Bahadur Shastri first tried to attain nuclear guarantees from established nuclear weapons states, when such guarantees did not emerge, a different route had to be taken.
- In 1965, Things were further accelerated, India went to war with Pakistan once again, with China openly supporting Pakistan this time Effectively.
- India was surrounded by two unfriendly nations and needed to take steps towards building self-sufficiency.
- However, the path toward obtaining nuclear weapons would not be easy.

4. The Discriminatory NPT

- By the 1960s, discourse around nuclear disarmament and non-proliferation had shifted to the mainstream as the Cold War arms pushed the US and the USSR to great extremes.
- After China successfully tested its own bomb, there was increasing international consensus among the big powers regarding the need for a nonproliferation treaty. In 1968, the Non-Proliferation Treaty (NPT) came into existence.

- The treaty defines nuclear-weapon states as those that have built and tested a nuclear explosive device before January 1, 1967 – the US, Russia (formerly USSR), the UK, France, and China – and effectively disallows any other state from acquiring nuclear weapons.
- While the treaty has been signed by almost every country in the world, India is one of the few non-signatories.

5. Pokhran-I and its Aftermath

- By the 1970s, India was capable of conducting a nuclear bomb test. Bhaba's successor at the DAE, Vikram Sarabhai, had worked to significantly broaden India's nuclear technology and now the question was more of political will, especially in the context of a global order extremely wary of nuclear proliferation.
- Indira Gandhi took over the country's reins from Shastri after his sudden death in 1966. Once considered a puppet in the hands of a senior Congress leader, she would soon show her mettle, leading India through another testing war against Pakistan in 1971 and winning an overwhelming mandate in the following elections.
- On May 18, 1974, with support from Indira, India carried out its first nuclear test at the Pokhran test site.
- Pokhran-I, codenamed Operation Smiling Buddha, would be billed as a peaceful nuclear explosion, with few military implications.
- However, the world was not willing to buy India's version of the story. There was near universal condemnation and countries like the US and Canada imposed significant international sanctions on India.
- These sanctions would be a major setback for India's nuclear journey, and majorly decelerate its progress.

6. Pokhran-II

- After a few years of domestic turmoil when the political will to conduct nuclear testing was wanting, in 1998, the National Democratic Alliance (NDA) led by the BJP came to power under the leadership of Atal Bihari Vajpayee.
- One of the key promises in its manifesto was to “induct nuclear weapons” into India's arsenal. In March 1998, Pakistan launched the Ghauri missile – built with assistance from China.

- Two months later, India responded with Operation Shakti. While the 1974 tests were ostensibly done for peaceful purposes, the 1998 tests were the culmination of India's nuclear weaponization process.
- Consequently, the Indian Government declared itself as a state possessing nuclear weapons following Pokhran-II.
- While the tests in 1998 also invited sanctions from some countries (like the US), the condemnation was far from universal like in 1974.
- In the context of India's fast-growing economy and market potential, India was able to stand its ground and thus cement its status as a dominant nation-state.

7. The Period Between the two nuclear tests

- Beyond international sanctions, India's nuclear journey was also hobbled by domestic political instability.
- The Emergency of 1975 and Prime Minister Morarji Desai's opposition to nuclear weapons brought the program to a grinding halt.
- However, clamour for developing nuclear weapons picked up once again in the 1980s, as reports on Pakistan's rapidly progressing nuclear capabilities emerged.
- In 1983, the Defence Research and Development Organisation's (DRDO) funding was increased and Dr. APJ Abdul Kalam was put in charge of India's missile program.
- That year, India also developed capabilities to reprocess plutonium to weapons grade. Furthermore, throughout the decade, India exponentially increased its plutonium stockpiles.
- The early 1990s brought with them increased pressure to quickly develop nuclear weapons. With the fall of the USSR in 1991, India lost one of its biggest military allies, since the time Indira Gandhi had signed a 20-year security pact with it in 1971.
- Furthermore, the US continued to provide military aid to Pakistan despite its own misgivings with its nuclear weapons program.
- Finally, discussions regarding a Comprehensive Test Ban Treaty (CTBT) were also underway in the UN (it would be finalized in 1996, but India did not sign it).
- For India, it felt like its window of opportunity was fast closing. Thus, in 1995, then Prime Minister PV Narasimha Rao permitted the preparations for

carrying out a nuclear test in December 1995. However, logistical and political reasons pushed back the tests further.

8. India's Doctrine of Nuclear No-First Use

- A commitment to not be the first to use a nuclear weapon in a conflict has long been India's stated policy.
- Pakistan, by contrast, has openly threatened India with the use of nuclear weapons on multiple occasions beginning from the time the two nations were not even acknowledged nuclear powers.
- On January 4, 2003, when Vajpayee was India's Prime Minister, the Cabinet Committee on Security (CCS) met to review the progress in operationalizing the country's nuclear doctrine.
- An official release issued that day summarized the decisions that were being put in the public domain.
- Among the major points in the doctrine was "a posture of No First Use", which was described as follows: "Nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere".
- However, the doctrine made it clear that India's "nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage".
- Also, in the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons, India will retain the option of retaliating with nuclear weapons.

9. Important key takeaways of the doctrine

- Nuclear retaliatory attacks can only be authorized by the civilian political leadership through the Nuclear Command Authority.
- The Nuclear Command Authority comprises a Political Council and an Executive Council. The Political Council is chaired by the Prime Minister.
- India would not use nuclear weapons against non-nuclear weapon states.
- India would continue to put strict controls on the export of nuclear and missile-related materials and technologies, participate in the Fissile Material Cutoff Treaty negotiations, and continue to observe the moratorium on nuclear tests.
- India remains committed to the goal of a nuclear weapons-free world, through global, verifiable, and non-discriminatory nuclear disarmament.

General Studies IV: Ethics & Integrity

WOMANHOOD

1. Introduction

While many scholars have discussed how **subaltern literature** has challenged and helped us imagine a new version of history, Anagha Ingole's article deciphers the writings of three nonBrahmin educated women, whose writings, distinct from Brahmin writings of their time questioned the dominant narrative of womanhood in historiographies.

These women, through a writing style different from that of upper-caste women of that period, broke away from concepts of tradition, nationality and culture on the one hand and liberalism and modernity on the other.

2. Two Readings of womanhood

- In the 19th century, two contrasting perspectives on **Indian womanhood** emerged.
- The **European viewpoint** perceived women in India as confined by **Brahminical orthodoxy** and **Hindu traditions**, requiring reform.
- The reformist narrative aimed to modernise women, believing that introducing them to education and liberal enlightenment would guide society towards progress. Women became symbols of a society's moral health.
- However, nationalist historiography rejected such an understanding of Indian womanhood.
- It reimaged womanhood as emerging from colonial encounters while distinguishing it from the narratives of traditional memsahibs or lower-class/caste women.
- The new Indian woman became the protector of Indian culture and nationalism.

- Indian womanhood was the placeholder for the inner core of nationalism that was spiritual and cultural, distinct from the outer core of nationalism that dealt with state and political economy.
- Both historiographies shared commonalities they recognised the necessity of modernity and neglected women's experiences.
- Even when their experiences were considered, the intersection of gender and caste was overlooked, limiting the narratives to upper-caste women's experiences.
- Scholars like Partha Chatterjee suggest that lower-caste women could not grasp the virtues of freedom.
- Their resistance against caste issues merged with anticolonial narratives.
- While the woman's question could not neglect lower caste women's experiences, it did not play a key role in shaping the intellectual discourse on womanhood.
- Hence, the onus of telling the Dalit experience and its difference and relevance in the overall narrative around womanhood shifted to **Dalit feminist scholars**.

3. other narrative

- The author clarifies that it was not as if women never wrote and shared their narratives.
- But Brahmin or upper-caste women typically adhered to a set pattern, writings autobiographies that downplayed their roles and emphasised domesticity.
- In contrast, non-brahmin feminist writers like **Savitribai Phule, Tarabai Shinde and Mukta Salve** broke conventions in their writing forms and included nonconventional and explosive topics of discussion, questioned the societal norms of patriarchy and discussed caste discrimination.
- Savitribai Phule chose poetry and verses as her form of writing. Education, women's liberty and the oppression of the lower castes were recurrent themes.
- Even when she used literary conventions, she would write on non-conventional subjects.
- She used the **powada** (a poetic metre to sing the glory of warriors/kings) to write about the English language and twisted prayer forms to speak of the injustice done to the untouchable Shudra castes.

- Mukta Slave wrote about how the Peshwas tormented the Mangs and Mahars and her hope for liberation.
- Tarabhai Shinde, although constrained by language limitations, fearlessly expressed her views as a writer, offering critiques of orthodox male writers and challenging patriarchy and its deep-seated connections to religion, caste and societal norms an unexplored territory in the country's literary landscape.
- As these writers were not conventional when it came to their writing forms or subjects, their works often encountered scepticism.

4. Role of Education

- One of the most important features of their writing was their approach to the meaning of education.
- Initially wary of education due to their anxiety around caste purity, Brahmins eventually recognised its importance for government jobs, prosperity and social status.
- To reconcile this conflict, Brahmins conveniently separated the inner and outer spheres, finding new justifications for their engagement with the English language and education.
- In parallel, as education became a means to ascend the social and economic ladder, it had become attractive to non-Brahmin communities as well.
- This limited non-Brahmin aspirations towards education to Brahmin's utilitarian conception of education.
- But while Savitribai Phule supported **English education**, it was not just a means of expanding employment prospects.
- Education was enabling, it helped one look at their past critically, gave non-Brahmins access to history and also helped them to communicate with other non-Brahmins.
- English education helped challenge the position given to nonBrahmins in society as the mythical history that limited their possibilities and capabilities was no longer blindly internalised as facts.
- Mukta Salve looked at education as a way of healing from the caste oppression that her community had endured and hoped that it would create a new morality, distinct from that created by the Brahmins.
- Thus, education in nonBrahmin women's writings had a different motivation from that of orthodox Brahmins.

- It had the power to heal and the ability to transform the inner spiritual world characterised by caste hierarchy and question the interpretation of history.

5. Doublestandards

- The double standards of men who prohibit women's education, can easily step in and out of tradition.
- In the 19th century was a period when men were seen to be glorious in every aspect, while women were considered to be a negative influence an object to be owned and a force to be tamed with physical and psychological violence.
- Prohibition on remarriage, the lack of independence, and the crude restrictions on widowed women were examples of this.
- Taking the examples of honourable women in the Shastras, are vilified and belittled for vices they cannot overcome.
- The such vilification is not limited to a single woman but stree jati as a whole within the Brahminical order.
- The hypocrisy in men's ability to transcend the orthopraxy of religion, while rules for women become stricter.
- Men could corrupt dharma by working under the British or travelling across the seas, while women were expected to uphold traditions and cultures and in general, hold the fort.

For Mains

- 1. Discuss the role of women's contribution to the Indian freedom struggle. Explain how women education played a key role in it. (250 Words)**
- 2. What is London Interbank Offered Rate? Explain the Controversial story surrounding the global benchmark interest rate during the 2008 Global Financial Crisis. (250 Words)**
- 3. What is Sendai Framework? Discuss the Priorities, targets, and indicators of the Sendai Framework (250 Words)**
- 4. What is Drug trafficking? Discuss why Drug trafficking is a serious security issue for India. Explain how it is helpful for terror financing? (250 Words)**

5. What could the total ban on diesel vehicles mean in India. Discuss? (250 Words)

For Prelims

1. With reference to Non-Proliferation Treaty (NPT), consider the following statements:

1. NPT came into existence in the year 1968 and disallows any other state from acquiring nuclear weapons except the US, Russia (formerly USSR), the UK, France and Germany.
2. This treaty has been signed by almost every country in the world, India is one of the few non-signatories.

Which of the above statements is/are correct?

- (A) Only 1
- (B) Only 2
- (C) Both 1 and 2
- (D) Neither 1 nor 2

Answer (B)

In 1968, the Non-Proliferation Treaty (NPT) came into existence. The treaty defines nuclear-weapon states as those that have built and tested a nuclear explosive device before January 1, 1967 – the US, Russia (formerly USSR), the UK, France and China (not Germany) – and effectively disallows any other state from acquiring nuclear weapons. Hence, statement 1 is not true.

While the treaty has been signed by almost every country in the world, India is one of the few non-signatories. Hence, statement 2 is not true

2. With reference to the Governor of Indian State, consider the following statements:

1. The Governor can ask to prove the majority on the floor of the house to resolve internal party disputes or intra party disputes.

2. The Governor of a State shall have the power to grant pardons of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends.

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

- (A) 1 only
- (B) 2 only
- (C) Both 1 and 2
- (D) Neither 1 nor 2

Answer (B)

The Supreme Court said former Maharashtra Governor Bhagat Singh Koshyari's decision to ask then Chief Minister Uddhav Thackeray to prove his majority on the floor of the house was "not justified", but said it cannot restore his government since he had not faced the floor test.

It also said "the Governor was justified in inviting Mr. (Eknath) Shinde to form the government" after Thackeray quit.

The Supreme Court said the "floor test cannot be used as a medium to resolve internal party disputes or intra party disputes" and noted that "dissent and disagreement within a political party must be resolved in accordance with the remedies prescribed under the party constitution, or through any other methods that the party chooses to opt for". Hence, statement 1 is not correct.

Article 161 of Constitution of India says 161 "The Governor of a State shall have the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends". Hence, statement 2 is correct.

3. With reference to the "*Cyclone Mocha*", Consider the following statements:

- 1. It is a low-pressure system that forms over warm waters.
- 2. It has developed in the region of Arabian Sea.

3. The air blows in a anti-clockwise direction in the Northern Hemisphere and in a clockwise direction in the Southern Hemisphere.

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

(A) 1 and 2 only

(B) 1 only

(C) 3 only

(D) 1 and 3 only

Answer (D)

The Indian Meteorological Department (IMD) has said that a cyclonic or low-pressure area is developing in the Bay of Bengal and can lead to high rainfall. This cyclone will be named Mocha (Mokha), a name suggested by Yemen after the Red Sea port city. Hence, statement 2 is not correct.

A cyclone is a low-pressure system that forms over warm waters. Usually, a high temperature anywhere means the existence of low-pressure air, and a low temperature means high-pressure wind. Hence, statement 1 is correct.

As air gets warm over hotter regions it ascends, leading to low pressure at the surface it is covering. When air cools in colder areas it descends, leading to high pressure at the surface.

In a depression or low-pressure situation, the air is rising and blows in an anticlockwise direction around the low in the northern hemisphere and in a clockwise direction in the southern hemisphere. This is because of the Coriolis effect, a result of the earth's rotation on its axis. Hence, statement 3 is correct.

As warm air rises and cools, water vapour condenses to form clouds and this can lead to rains.

According to the World Meteorological Organization, "Tropical cyclones are one of the biggest threats to life and property even in the formative stages of their development.

Cyclones that form in every ocean basin across the world are named by the regional specialised meteorological centres (RSMCs) and Tropical Cyclone

Warning Centres (TCWCs). There are six RSMCs in the world, including the India Meteorological Department (IMD), and five TCWCs.

The IMD is also mandated to issue advisories to 12 other countries in the region on the development of cyclones and storms.

4. Consider the following statements:

1. The Central Salt and Marine Chemicals Research Institute (CSMCRI) has developed a process to recover both sulphate of potash (SOP) and muriate of potash (MOP) from the spent wash ash generated by sugarcane molasses-based distilleries.

2. CSMCRI functions under the aegis of the Council of Scientific and Industrial Research.

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

- (A) 1 only
- (B) 2 only
- (C) Both 1 and 2
- (D) Neither 1 nor 2

Answer (C)

The Central Salt and Marine Chemicals Research Institute (CSMCRI) at Bhavnagar in Gujarat has developed a process to recover both sulphate of potash (SOP) and muriate of potash (MOP) from the spent wash ash generated by sugarcane molasses-based distilleries. Hence, statement 1 is correct.

The CSMCRI is one of the 37 premier national laboratories functioning under the aegis of the Council of Scientific and Industrial Research (CSIR), the apex research and development organisation headed by the Prime Minister. Hence, statement 2 is correct.

Spent wash is basically the wastewater or effluent that is a byproduct of alcohol production. For every one litre of alcohol that they produce from fermented cane molasses, distilleries generate 10-15 litre of spent wash.

This wastewater contains about 2-3 per cent potash and a huge organic load and salts that, if discharged without treatment, can pollute both land and water bodies. Since distilleries are required to adhere to zero-discharge norms imposed by the Central Pollution Control Board, they manage the spent wash mainly by two methods:

(1) By mixing it with press-mud from sugar mills, the residual cake after clarification and filtration of cane juice. This mix is then composted and converted into manure.

(2) To concentrate the spent wash to 58-60 per cent solids and feed it into an incineration boiler. The resultant ash coming out of the boiler in dry form contains 20-21 per cent potash and in some cases, it is converted into granules for agricultural application.

5. Consider the following countries:

1. India
2. Russia
3. Uzbekistan
4. Mongolia
5. Afghanistan

Which of the countries given above are part of Shanghai Cooperation Organisation (SCO)?

- (A) 1, 2 and 3 only
- (B) 1, 2, 3 and 4 only
- (C) 2, 3, and 5 only
- (D) 1, 2, 3, 4 and 5

Answer (A)

The SCO Foreign Ministers' meet was held at Goa which laid a new mark on the growth of the eight-member bloc asserting that security cooperation remains the top priority of the grouping.

SCO consists of China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan. India holds the rotating Presidency of the organisation this year.

SCO pays more attention to issues like energy, food security, public health, climate change and other issues and established cooperation on those fronts, besides trade and economic fronts.

The organisation is also working on promoting local currency payment mechanisms among member states, besides setting up a development bank of its own. The SCO is working on this issue on cross border payment mechanism.