- LIGO India
- Green Deposits
- First water budget
- Rare Disease
- Eco Sensitive zones

TNPSC தேர்வுகளில் வெற்றி பெறுவதற்கான முக்கிய ஆலோசனைகள்...

1. தேர்வுகளில் வெற்றி பெறுவதற்காக சாத்தியமாகக் கூடிய கால அட்டவணையை முதலில் தயாரித்து, அதை உறுதியாகப் பின்பற்ற வேண்டும்.

2. TNPSC தேர்வுக்கான பாடத்திட்டம் என்ன என்பதை முழுமையாக அறிந்துகொண்டு, அதில் எந்தப் பகுதியையும் விடாமல் படிக்க வேண்டும்.

3. முதன்மை ஆதாரங்கள் அல்லது நூல்களில் இருந்து தரமான குறிப்புகளைத் தயாரித்து வைத்துக்கொள்ள வேண்டும்.

4. TNPSC தேர்வு எழுதுவதற்கான அறிவுத் திறனை அடுத்த நிலைக்கு மேம்படுத்த எஸ்.சி.இ.ஆர்.டி (SCERT) எனப்படும் மாநிலக் கல்வியல் ஆராய்ச்சி மற்றும் பயிற்சி நிறுவனக்குழு தயாரிக்கும் பாட நூல்களில் இருந்து அவற்றின் அடிப்படைத் தத்துவத்தை புரிந்துகொள்ள வேண்டியது மிகவும் முக்கியமாகும்.

5. பாடங்களில் இருந்து எவ்வாறு வினாக்கள் எழுப்பப்படும் என்பதை அறிந்து கொள்வதற்காக அவற்றின் தத்துவங்கள், உண்மைகள் போன்றவற்றை தேர்வுக்கானக் கோணத்தில் இருந்து புரிந்துகொள்ள வேண்டும்.

6. முந்தைய ஆண்டின் வினாக்களை நன்றாகப் படித்து, அவற்றை ஆய்வு செய்ய வேண்டும்.

7. அத்தியாயங்கள் வாரியாகவும், பாடங்கள் வாரியாகவும் பயிற்சித் தேர்வுகளை எழுதிப் பார்க்க வேண்டும். அவ்வாறு செய்வதன் மூலம் உண்மையான தேர்வு எவ்வாறு இருக்கும் என்பது குறித்த அனுபவம் நமக்குக் கிடைப்பதுடன், தவறுகளைத் திருத்திக் கொண்டு மேம்படுத்திக் கொள்ளவும் முடியும்.

8. கடந்த ஆண்டுக்கான பொது அறிவு வினாத்தாள்களுக்கு விடை அளிக்க முயற்சி செய்ய வேண்டும். உங்களின் பலவீனம் என்ன என்பதை தெரிந்து கொள்ள அது உதவும். நீங்கள் எந்த அளவிற்குத் தேர்வுக்கு தயாராகி இருக்கிறீர்கள்? உங்களின் அறிவுத் திறன், விடை அளிக்கும் வேகம், துல்லியம் ஆகியவற்றை அளவிடுவதற்கும் இது உதவும்.

9. பாடங்களை ஒருமுறையாவது திருப்புதல் செய்து பார்ப்பது கட்டாயம் ஆகும்.

10. அனைத்துப் பாடங்களையும் ஒருமுறை திருப்புதல் செய்து பார்ப்பதும், தயார் செய்து வைக்கப்பட்டுள்ள குறிப்புகளை மூன்றாவது முறையில் படித்துப் பார்ப்பதும் சிறப்பாகும்.

11. தேர்வுக்கு முந்தைய ஒரு மாதத்தில் புதிய பாடங்களைப் படித்து ஆராய ஒருபோதும் முயற்சி செய்ய வேண்டாம். அந்த ஒரு மாதமும் ஏற்கனவே படித்த பாடங்களைத் திருப்புதல் செய்து பார்ப்பதற்கு மட்டுமே ஒதுக்கப்பட வேண்டும். அந்த ஒரு மாதம் முழுவதும் திருப்புதல், திருப்புதல், திருப்புதல் என்பதே மந்திரமாக இருக்க வேண்டும்.

12. செய்திகளையும், நாட்டு நடப்புகளையும் தொடர்ச்சியாகப் படித்து வரவேண்டும். பாடங்களையும், தேசிய மற்றும் சர்வதேச நிகழ்வுகளையும் நன்கு அறிந்துகொள்ள வேண்டும்.

13. அடுத்த நாள் தேர்வு நடக்க இருப்பதாகக் கருதிக் கொண்டு அதற்கேற்ற வகையில் தேர்வுக்குத் தயாராகுவதற்கான உத்தி வகுக்கப்பட வேண்டும். அந்த அளவுக்கான தயாரிப்பு அவசியமாகும்.

14. ஒவ்வொரு நாளும் உறங்கச் செல்வதற்கு முன் அந்த நாள் முழுவதும் படித்த பாடங்களை ஒருமுறை நினைவுபடுத்திக் கொள்ள வேண்டும். அது உங்களின் நினைவுத் திறனை வலுப்படுத்தும்.

15. முதல்நிலைத் தேர்வுக்கான பொது அறிவு முதல் தாளுக்கான தயாரிப்பு முதன்மைத் தேர்வையும் மனதில் கொண்டு தொடரப்பட வேண்டும்.

SURESH' 360

Competitive Exam Monthly Magazine

INDEX

I. Profile of State

ASSAM

INTRODUCTION

- Assam is situated in the North-East of India and is the largest North eastern state in terms of population while second in terms of area.
- Assam covers an area of 78,438 km^2
- The state is bordered by Bhutan and the stste of Arunachal Pradesh to the north; Nagaland, Arunachal Pradesh and Manipur to the east; Meghalaya, Tripura, Mizoram and Bangladesh to the South; and wst Bengal to the west.
- A Significant geographical aspect of Assam is that it contains three of Six physiographic divisions of India. The Northern Himalayas (Eastern hills) The Northern Plains (Brahmaputra Plain) and Deccam plateau (Karbi Anglong)

STATE ANTHEM

- **"O mur Apunar Dekh"** is the state song of Assam

- It was written by Lakshminath Bezbarua and attuned by kamala Prasad Agarwala.
- It was officially adopted as the state song of Assam at the Assam student conference held in Tezpur in 1927.

STATE SYMBOLS

- The official state symbols represent the cultural heritage and natural treasures of Assam.
- The following are the accredited state symbols of Assam.
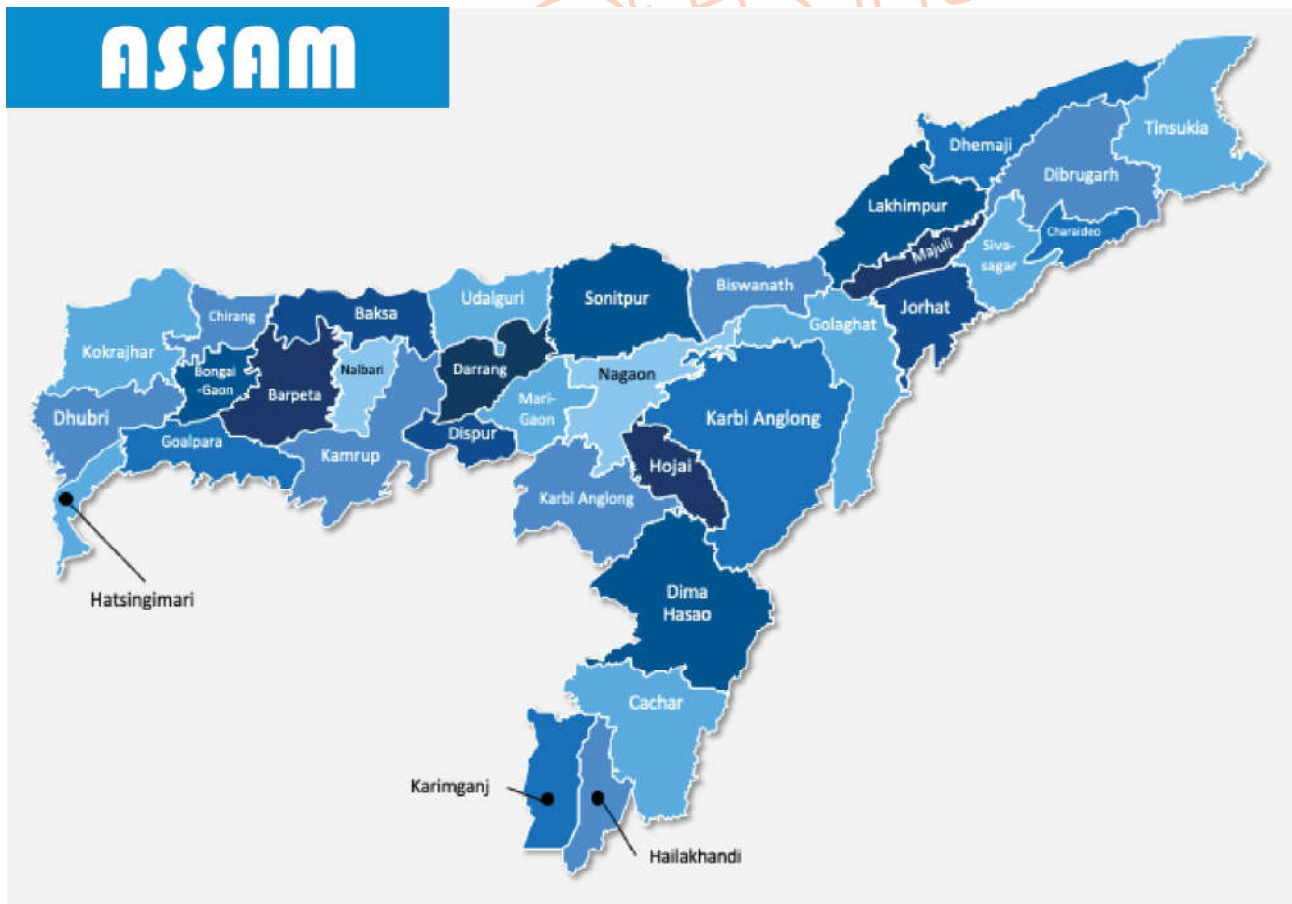
No.	Symbols	Assam	English
1	State Motto	Joi Aai Axom	Hail Mother Assam
2	State Seal	Axom Sorkar	Government of Assam
3	State Language	Axomiya	Assamese
4	State Literary Society	Axom Xahityo Xobha	Assam Literary Society
5	State Festival	Bihu	Bihu
6	Dance	Bihu nas	Bihu dance
7	Flower	Kopou phul	Foxtail Orchids
8	Tree	Hollong	Dipterocarpus macrocarpus
9	Animal	Gor	One-horned rhinoceros
10	Bird	Deo haah	White-winged wood duch

ASSAM HISTORY

- Assam is the eastern most sentinel of India endowed with enchanting and picturesque natural beauty.

- The stste is adorned with beautiful lush covers of greenery, a chain of hills and rivers mainly the Brahmaputra and the Barak.

- It has been the living place of various races, tribes and ethnic groups since time immemorial.

- The dynamics of synthesis and assimilation of the races make Assam glorified and rich.

- The name 'Aham' or 'Asom' was probably given by the Ahoms who came to Assam in 1228 A.D.

- Even though the origin is ambiguous but it is believed that the modern name Assam is itself an anglicization.

- The Ahom's entered Assam fully assimilated and ruled Assam for nearly six hundred years.

- The period of Ahom rule is a glorious chapter in the history of Assam. The Ahom dynasty was established by Sukaphaa, a Shan prince of Mong Mao who came to Assam after crossing the Patkai Mountains.

- It is between 13th and 19th century that several tribal communities also came into the historical forefront of Assam.

- Kacharis, Chutias and Koch were the prominent tribal groups that were found in the medieval times of Assam.

- The rule of this dynasty ended with the Burmese invasion of Assam and the subsequent annexation by the British East

- India Company following the Treaty of Yandaboo in 1826.

- The British emperor took charge of the state and thus begun the colonial era of Assam.

- Today Assam has an area of 78,438 square kilometers.

- It consists of thirty three districts and is credited to be the most populous state in the entire Northeast India.

CULTURE OF ASSAM

- Assam is the meeting ground of diverse cultures. The people of the enchanting state of Assam are an intermixture of various racial stocks such as Mongoloid, Indo-Burmese, Indo-Iranian and Aryan.

- The state has a large number of tribes, each unique in its tradition, culture, dress and exotic way of life.

- Diverse tribes like Bodo, Kachari, Karbi, Miri, Mishimi, Rabha, etc co-exist in Assam; most tribes have their own languages though Assamese is the principal language of the state.

GAMUCHA

- The "Gamucha" is one of the most easily recognizable cultural symbols of the Assamese people and is an integral part

of almost all socio-religious ceremonies.

- It is considered as an honorary piece of cloth commonly used for felicitation in Assam.

- It is used as a towel, as a waistcloth or a loincloth; a Bihu dancer wraps it around the head in a knot, it is also hung around the neck at the prayer hall and thrown over the shoulder to signify social status or respect.

- "Gamucha"s", also known as "Bihuwaans", are offered during Bihu as a token of love.

- Significantly the "Gamucha" is used equally by all, irrespective of religious and ethnic backgrounds.

TAMUL PAAN

- "Tamul Paan" or Guapan are considered as the offers of devotion, respect and friendship.

- Guests are offered "Tamul Paan" in a traditional bell metal serving "Bota" as a mark of honour.

- Chewing "Tamul Paan" gives a kind of high and feel good factor.

- "Tamul Paan" is integral part of all social and religious ceremonies of the Assamese people.

JAAPI

- The "Jaapi" is a traditional conical hat from Assam which is made from tightly woven bamboo and/or cane and "Tokoupaat", a type of large palm leaf.

- "Jaapi" is worn in a style of Bihu dance, used as protection against the elements, offered as a sign of respect in ceremonies, and placed as a decorative item around the house, especially near the front door as a welcome sign.

XORAI

- "Xorai" a traditional symbol of Assam, is a manufactured bellmetal product and is considered as an article of great respect by the people of Assam.

- There are "Xorai"s" with or without a cover on the top.

- Hajo and Sarthebari are the most important centers of traditional bell-metal and brass crafts in Assam.

- Xorai"s"are used to offer "Tamul Paan" as a sign of welcome and thanks for guests.

BIHU

- Bihu is the most popular folk dance of Assam.

- Bihu dances are performed by young boys and girls during the Bihu festivities which represent youthful passion, reproductive urge and joy.

- It is characterized by brisk dance steps and rapid hand movement.

- Dancers wear traditional colourful Assamese clothing.

- The dances are accompanied by musical instruments like "Dhol" (Dholak), pepa, gogana, banhi(flute) etc. Though the origin of the Bihu dance is unknown, the first official endorsement is cited to be when Ahom king Rudra Singha invited Bihu dancers to perform at the Ranghar fields sometime around 1694 on the occasion of Rongali Bihu.

II. National Symbol

- The symbol of Indian Rupee typifies India's international identity for money transactions and economic strength. The Indian Rupee sign is an allegory of Indian ethos. The symbol is an amalgam of Devanagari "Ra" and the Roman Capital "R" with two parallel horizontal stripes running at the top representing the national flag and also the "equal to" sign. The Indian Rupee sign was adopted by the Government of India on 15th July, 2010.

- The symbol, conceptualised and designed by Udaya Kumar, a post graduate in Design from Indian Institute of Technology Bombay, has been chosen from thousands of concept entries received by the Ministry of Finance through an open competition among resident Indian nationals. The process of establishing and implementing this new identity is underway through various digital technology and computer applications.

III. Eminent Person's and Places, Sports, Book Authors

1. EMINENT PERSONS

GURU TEGH BAHADUR

Context :

- The ParkashPurab of Sri Guru TeghBahadur, the ninth guru of the Sikhs, is being celebrated on April 11.

What is Prakash Purab?

- ParkashPurab is a term used in Sikhism to refer to the birth anniversary celebrations of the ten Sikh gurus. "Parkash" means "illumination" or "light," while "Purab" means "day."

About Guru Tegh Bahadur:

- TeghBahadur was born in Amritsar in 1621 to Guru Hargobind and Mata Nanki. TeghBahadur's writings are housed in the 'Guru Granth Sahib' as 116 poetic hymns. He founded the town of Chak-Nanki and played a key role in setting up preaching centres throughout the Indian subcontinent. However, he was executed in Delhi in 1675 under the orders of Mughal Emperor Aurangzeb.

MAHATMA JYOTIBAPHULE

Context:

- The Prime Minister has paid tribute to the great social reformer, Mahatma JyotibaPhule on his birth anniversary

About JyotibaPhule (1827-1890)

About	Description
Ideology	Liberty, Egalitarianism, Socialism. Phule was influenced by Thomas Paine's book titled The Rights of Man
Major Publications	TritiyaRatna (1855), Powada: ChatrapatiShivajirajeBhosleYancha (1869), Gulamgiri (1873), ShetkarayachaAasud (1881)
Related Association	Founder of SatyashodhakSamaj in 1873 with the aim to attain equal social and economic benefits for the lower castes in Maharashtra
Municipal Council Member	Served as commissioner to the Poona municipality until 1883
Title of Mahatma	Bestowed with the title of Mahatma in 1888 (by a social activist Vithalrao Krishnaji Vandekar)
Social Reformer	An advocate of gender equality, he opened the first school for girls in Pune; established an ashram for young widows, and worked for the abolishment of untouchability and the caste system. He believed that the only solution to combat social evils was the enlightenment of women and members of the lower castes. He along with his wife opened the first indigenously run school for girls in Pune (1848) where they both taught.

FOUR NEW ASTRONAUTS OF NASA

- Nasa has named the four astronauts who will take humanity back to the Moon by Artemis-2 mission after a 50-year gap.
- Christina Koch will become the first woman astronaut ever assigned to a lunar mission.
- Victor Glover will be the first black astronaut on one.
- The two other astronauts are Reid Wiseman and Jeremy Hansen

ELAYAPERUMAL MEMORIAL HALL

- The Tamil Nadu government will construct a memorial hall to mark the birth centenary of Dalit leader and former president of Tamil Nadu Congress Committee L. ElayaPerumal at his home town in Chidambaram.
- He worked for the rights of Scheduled Caste community, was agitated on noticing 'two pot system' even during his school days and acted against it.
- Between 1940 and 1970, Elayaperumal spearheaded several protests on various social issues in the erstwhile South Arcot and Thanjavur districts.
- He joined the Congress and was elected to the LokSabha from Cuddalore Parliamentary constituency at the age of 27.
- He was MP thrice and also represented Egmore Assembly constituency.
- He headed the Committee on Untouchability, Economic and Educational Development of the Scheduled Castes in 1965
- Former CM Karunanidhi had conferred the first 'AnnalAmbedkar Award' on Elayaperumal in 1998.

2. SPORTS

GOLDEN WOMEN

- 324 athletes from 65 countries participated in 12 weight categories

- Nikhat Zareen, Lovlina Borgohain, Nitu Ghanghas, Saweety Boora have given India a lot of pride.

- Their record helped India top the World Women's Boxing Championship with 4 gold medals

- In 2006, a similar feat was achieved by 4 female boxers from India

- There is a difference between Mary Kom, Laishram Sarita Devi, Lekha K. C and Jenny R Lalremliani who collected gold medals in 2006 and the current success.

- At that time, women's boxing was not included in the Olympic Games

- Following the addition of women's boxing to the Olympics in 2012, Mary Kom won a bronze medal at the London Olympics and Lovlina won a bronze medal at the Tokyo Olympics.

- This assumes significance as the achievements of the Indian women's team at the Asian Games will qualify them for the 2024 Paris Olympics.

- So far we have been able to get a bronze medal in the Olympics. The women's boxing team at the Paris Olympics has created expectations that they could win a gold medal

- World Women's Boxing Championship held in Delhi.

INTERNATIONAL HOCKEY IN CHENNAI AFTER 16 YEARS

- The men's Asian Champions Trophy hockey series will be held in India for the first time

- It will be held at Egmore Mayor Radhakrishnan Stadium, Chennai

- In recent times the state of Odisha has been the center of hosting important international hockey tournaments

FIRST TIME IN INDIA

- International hockey tournament to be held in Chennai after 16 years. The last time, the men's Asia Cup series was held in 2008

4TH ASIAN KHOKHO

- The Indian men's and women's teams clinched the titles at the 4th Asian KhoKho Championships.

- In the finals, the Indian men defeated Nepal.

- In the women's semi-final, India beat Bangladesh.

- In both men's and women's categories, the third place was shared by Bangladesh and Sri Lanka.

- The event was organised by the KhoKho Federation of India and was hosted by the Assam KhoKho Association

WISDEN ALMANACK'S CRICKETERS

- Surya kumar won the honour of WisdenAlmanack's leading T20I cricketer.

- HarmanpreetKaur became the first Indian woman to win the Cricketer of the Year award.

- She is one of the five Cricketers of the Year announced in the 2023 Wisden Cricketers' Almanack.

WOMEN'S BOXING WORLD CHAMPIONSHIPS

- Indian women boxers recreated history and brought home four gold medals at the IBA Women's World Boxing Championship.

- NituGhanghas (48kg), NikhatZareen (50kg), LovlinaBorgohain (75) and Saweety Boora (81kg) won gold for the country.

- India stood on the top in the gold medal tally at the championship

- This was India's second time in history to win four gold medals at the Women's World Boxing Championships.

- In 2006, Mary Kom, Sarita Devi, Jenny Lalremliani and Lekha K.C won gold for the country.

WOMEN'S WORLD BOXING CHAMPIONSHIPS 2023

Event	Gold	Silver
Minimum Weight	Nitu Ghanghas - India	Lutsaikhany Altantsetseg - Mangolia
Light Weight	Nikhat Zareen - India	Nguyen Thi Tam - Vietnam
Flyweight	Wu Yu - China	Sirine Charaabi - Italy
Bantam Weight	Huang Hsiao-wen - Chinese Taipei	Yeni Arias - Colombia
Feather Weight	Irma Testa - Italy	Karina Ibragimova - Kazakhstan
Light Weight	Beatriz Ferreira - Brazil	Angie Valdes - Colombia
Light Welter Weight	Yang Chengyu - China	Nataliya Sychugova - Russia
Welter Weight	Yang Liu - China	Janjaem Suwannapheng - Thailand
Light Middle Weight	Anastasiia Demurchian - Russia	Kaye Scott - Australia
Middle Weight	Lovlina Borgohain - India	Caitlin Parker - Australia
Light heavy Weight	Saweety Boora - India	Wang Lina - China
Heavy Weight	Khadija El-Mardi	Lazzat Kungeibayeva

- India emerged as a dominant force at the 13th edition of the IBA Women's World Boxing Championship 2023, held in New Delhi.
- The event concluded with four Indian female boxers securing gold medals in different weight categories.
- It was organised by the International Boxing Association (IBA)

3. EVENT'S / AWARD'S

AWARS

PRAVASI BHARATIYA SAMMAN FOR RAJ SUBRAMANIAM

- Indian-American and FedEx CEO Raj Subramaniam (55) was honored with the Best Overseas Indian Award.
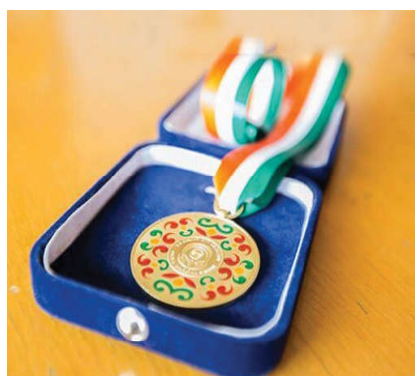
- Raj Subramaniam is the Chairman and Chief Executive Officer of Fed Ex Corporation, one of the world's largest delivery companies.
- His leadership experience and business acumen have contributed immensely to FedEx's success.

MISS INDIA PARTICIPATING IN THE MISS WORLD PAGEANT

- Nandini Gupta from Rajasthan won the title of Femina Miss India 2023 at an event held in Imphal on Saturday.

- Through this, she has got an opportunity to participate in the Miss World pageant on behalf of India

- The winner of the Femina Miss India pageant, which

is contested by contestants from various states across the country, will represent India in the international Miss World pageant that year.

FEMINA MISS INDIA 2023

- The 59th edition of the Femina Miss India was Organised for the first time in Manipur.
- Rajasthan's Nandini Gupta was crowned Femina Miss India World 2023.
- Now, she will represent India at the Miss World contest.
- Delhi's ShreyaPoonja became the first runner-up.
- Manipur's Thounaojam-StrelaLuwang was crowned as the 2nd runner-up.
- The 71st edition of the Miss World pageant will be held in the United Arab Emirates this year.

RAMON MAGSAYSAY AWARD

- The Tibetan spiritual leader the Dalai Lama was presented with the 1959 Ramon Magsaysay Award after 64 years
- The Ramon Magsaysay Award was established by the Rockefeller Brothers Financial Foundation and the Government of the Philippines to honor former Philippine President Ramon Magsaysay's public service, good governance, and pragmatic ambition.
- This award has been given since 1958
- Considered Asia's Nobel Prize, the Ramadan Magsaysay Award was presented to the Dalai Lama in 1959.
- He was presented with the award after 64 years at the Dalai Lama's residence in Dharamsala, Himachal Pradesh.

NATIONAL PANCHAYAT AWARDS 2023

- In a boost for the state government's initiatives in rural areas, Telangana bagged 13 awards at the National Panchayat Awards 2023 under various categories.
- Of the 13, that state won eight awards under DeenDayalUpadhyay Panchayat SatatVikasPuraskar (DDUPSVP) for 2021-2022.
- Five awarded under Nanaji Deshmukh Sarvottam Panchayat Satat Vikas Puraskar (NDSPSVP) 2023.
- The DDUPSVP is for individual theme-wise performance and NDSPSVP is for aggregate performance under all the themes.
- The National Panchayat Awards honour the best-performing panchayats (local self-government bodies) across the country.

- The awards were first instituted in 2011 and have since been held every year.
- In previous years, there was a special quota for the Union Territories in the awards.
- However, this year, there was no separate quota for the Union Territories.

GALLANTRY AWARD TO 1ST WOMEN AIR FORCE OFFICER

- The Wing Commander DeepikaMisra was conferred the VayuSena medal by Indian Air Force (IAF).
- This is making her the first woman Air Force officer to receive a gallantry award.
- This was for an act of "exceptional courage" displayed during a flood relief operation in Madhya Pradesh and Rajasthan.
- She was among 58 personnel who received the gallantry award during the investiture ceremony held in New Delhi.

MALCOLM ADISESHIAH AWARD 2023

- Utsa Patnaik, a renowned economist has been selected for the Malcolm Adiseshiah Award 2023.

- The award is given every year by the Malcolm & Elizabeth Adiseshiah Trust.
- The national level award honours outstanding social scientists.

GOLDMAN ENVIRONMENTAL PRIZE

- Alessandra Korap, a Munduruku Indigenous woman from Brazil, has won the Goldman Environmental Prize for her leadership in defending her community's lands against illegal mining, hydroelectric dams, and other environmental crimes.
- Korap is part of a group of Munduruku women who have taken up the responsibility of defending their people and have overturned the traditionally all-male leadership. Munduruku is an indigenous people of Brazil living in the Amazon River basin.

About the Prize

- The Goldman Environmental Prize (est. 1989; by the Goldman Environmental Foundation) is a prize awarded annually to grassroots environmental activists, one from each of the world's six geographic regions: Africa, Asia, Europe, Islands and Island Nations, North America, and South and Central America. The award is also called the Green Nobel.

ALIYA MIR

- Aliya Mir, a prominent sociologist, has been awarded the wildlife conservation award by the Union Territory of Jammu and Kashmir for her exceptional efforts in conservation.
- O She is the first woman from Jammu and Kashmir to work for Wildlife SOS, and first woman to receive this honour in the region.

ABOUT INTERNATIONAL PRIZE IN STATISTICS

- It was established in 2016 and is awarded once every two years to an individual or team "for major achievements using statistics to advance science, technology and human welfare."

CHEVALIER DE LA LEGIOND 'HONNEUR" (KNIGHT OF THE LEGION OF HONOUR)

Context :

- Philanthropist and art collector KiranNadar was recently conferred "Chevalier de la Légiond'Honneur" (Knight of the Legion of Honour) by French Ambassador to India Emmanuel Lenain.
- Awarded for Contribution to the field of art, her commitment to providing greater access to culture both nationally and internationally, and her leading role in fostering Indo-French cultural ties.

About Kiran Nadar :

- MsNadar, chairperson of the KiranNadar Museum of Art (KNMA) - a philanthropic initiative in art - and a trustee of the Shiv Nadar Foundation has played a vital role in advancing Indo-French cultural ties, and artistic cooperation.
- This exhibition was brought to India as part of "Bonjour India 2022", a six-month cultural festival organised by France across India as a present for

India's 75th Independence anniversary.

About Chevalier de la Legion of d' Honneur :

- Legion of Honour is a French order of merit.

- This honour is presented to people with 20 years of civil achievement in peacetime or to those who showcased extraordinary military bravery in war times.

C R RAO
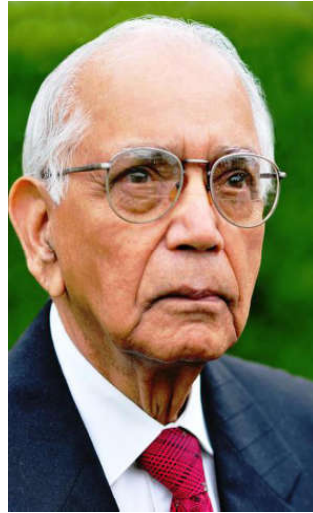
Context :

- The Indian-American statistician Calyampudi Radhakrishna Rao has been awarded the 2023 International Prize in Statistics, which is statistics' equivalent of the Nobel Prize.

About C R Rao :

- R. Rao is an Indian-American mathematician and statistician. He is currently a professor emeritus at Pennsylvania State University and Research Professor at the University at Buffalo. He was awarded Padma Vibhushan in 2001.

Contribution of C R Rao	Description
Various theorems	Rao-Blackwell Theorem, Cramér-Rao inequality, Fisher-Rao theorem, Orthogonal arrays, Multivariate statistical analysis, Biometry etc.
Fields	Statistics, economics, genetics, anthropology, geology, national planning, demography, biometry, and medicine
Rao's ground breaking paper	'Information and accuracy attainable in the estimation of statistical parameters' (1945)
Indian statistics	Indian statisticians also owe Prof. Rao gratitude for his enormous contributions to the growth of statistics in the country, notably at the Indian Statistical Institute. Rao was "the person who did the most to continue Mahalanobis's work as a leader of statistics in India."

EVENTS

RAMAKRISHNA MATH

Context :

- Prime Minister Narendra Modi attended the 125th-anniversary celebration of Sri Ramakrishna Math at Vivekananda House in Chennai, Tamil Nadu.

- The 'Book on Holy Trio' also released on the occasion.

About Ramakrishna Math

- Ramakrishna Math is the administrative legal organization of the Ramakrishna Order, considered part of the Hindu reform movements.

- It was set up by sannyasin disciples of Ramakrishna

Paramhansa headed by Swami Vivekananda at various places in India. Ramakrishna Math in various sectors such as education, libraries, health care, nursing, rural development, and leprosy awareness and rehabilitation.

About Ramakrishna Paramahansa (1836 –1886)

- He was an Indian Hindu mystic and spiritual leader who practised various religious traditions, including Hinduism, Islam, and Christianity, and proclaimed that all religions are different paths leading to the same goal.

- His followers regarded him as an avatar or divine incarnation, and his teachings were later popularized by his disciple Swami Vivekananda.

- Ramakrishna's legacy is continued through the Ramakrishna Order, which provides spiritual training for monastics and householder devotees, and the Ramakrishna Mission, which provides charity, social work, and education.

BIHU DANCE

Context :

- Guinness World Record has been awarded for the largest Bihu dance performance and largest dhol recital at a single venue.

About Bihu

	Description
About	Bihu is a fast-paced (with brisk footsteps), extremely joyful dance, hailing from the state of Assam
Purpose	Celebrating the three agricultural festivals of Assam—Rongali/BohagBihu (April), Bhogali/MaghBihu (January), Kongali/Kati Bihu (October)
Performers	Young men and women in groups
Costume	Colourful traditional costumes
Music	Bihu folk music played with instruments such as drums and flutes
Significance	Symbolizes fertility and love, celebrates the arrival of spring and the rain needed for crop growth
Cultural icon	Sign of Assamese cultural identity has remained relevant even with increased urbanization
Historical significance	One of the earliest depictions of Bihu dance can be found in 9th-century Tezpur and Darrang regions, and it has been referenced in inscriptions from the 14th century

GLOBAL BUDDHIST SUMMIT

Context :

- PM will inaugurate the first Global Buddhist Summit in New Delhi on April 20th and 21st.

Conducted by :

- The Ministry of Culture + International Buddhist Confederation (IBC)

Theme :

- "Responses to Contemporary Challenges: Philosophy to Praxis."

Aim :

- The summit aims to enhance cultural and diplomatic relationships with other countries and mark the significance and importance of India in Buddhism, as Buddhism was born in India.

About Four Buddhist Councils:

Council	First Council	Second Council	Third Council	Fourth Council
Year	486 BC	386 BC	250 BC	72 AD
Location	Rajgir	Vaishali	Pataliputra	Kundalavana
King	Ajatasatru	Kalasoka	Ashoka	Kanishka
Presiding Priest	MahaKasyapa	Sabakami	MogaliputtaTissa	Vasumitra
Purpose	Preserve Buddha's teachings and rules for disciples	Settle a dispute over Vinaya and Ten Points Rules	Reconcile different schools of Buddhism and purify the Buddhist movement	Deal with a serious conflict between Sarvasthivada teachers of Kashmir and Gandhara
Outcome	Collection of Pali Tipitaka	Split of the Buddhist order into Theravada and Mahasanghika	Codification of AbhidhammaPitaka and declaration of Sthaviravada School as orthodox	Sarvasthivada doctrines organized into commentaries; the Final division of Buddhism into Mahayana and Hinayana

Note :

The Theravada Buddhist Council in 1871 and Theravada Buddhist Council in 1954 are known as the Fifth and Sixth Buddhist Councils respectively.

16TH CIVIL SERVICES DAY

Context :

- National Civil Service Day, observed on April 21 every year, is a celebration of the idea of national civil service.
- The first National Civil Services Day was celebrated on April 21, 2006.

Background :

- Civil servants constitute the backbone of the administration.
- They ensure the implementation of government policies, ensuring the passage of benefits to the people.
- The civil services in India consist of the
  - Indian Administrative Service (IAS)
  - Indian Police Service (IPS)
  - Indian Foreign Service (IFS) and
  - A comprehensive list of other Central Services (Group A, B)
- It commemorates the day when SardarVallabhbhai Patel – independent India's first Home Minister, inaugurated the newly-created Indian Administrative Service in 1947, calling them the "steel frame of India."

Indian Civil Services

Issues faced	Govt efforts
Lack of professionalism and poor capacity building.	Towards capacity building and Specialisation
An ineffective incentive system that does not reward meritorious and upright civil servants.	Mission Karmayogi: A National Programme for Civil Services Capacity Building (NPCSCB).
Rigid and outmoded rules and procedures restrict the exercise of individual judgement and efficient performance.	Lateral entry: Personnel from the private sector are selected for administrative posts in the government.
Lack of accountability and transparency, with no adequate protection for whistle-blowers.	Towards transparency and accountability:
Political interference causes arbitrary transfers, and insecurity in tenures.	SVAMITVA scheme: A reformative step towards the establishment of clear ownership of property in rural inhabited areas, by mapping land parcels using drone technology.
An erosion in ethics and values has caused rampant corruption and nepotism.	Centralised Public Grievance Redress and Monitoring System (CPGRAMS): An online web-enabled system that provides the facility to lodge a grievance online from any geographical location.
Patrimonialism (a form of governance in which all power flows directly from the leader).	RTI, Citizen Charter, etc
Resistance to change from the civil servants themselves.	

A new ethic of civil servants :

- Selfless service and empathy.
- Duty-bound to drive India's transition from AmritMahotsav to AmritKaal.
- The removal of a colonial mindset, sharing a sense of pride in the Indian roots, with a nation-first approach.
- A future-ready civil service, which is
  - Proactive and polite;
  - Professional and progressive;
  - Energetic and enabling;
  - Transparent and tech-enabled;
  - Creative and constructive; and
  - Imaginative and innovative.

Desired outcomes for the Indian civil services:

- Maximum Governance, Minimum Government
- Cooperative Federalism through uniformity in administration across the Union and the States

Conclusion :

- The Indian civil services must transform itself from a rigid, restrictive and rule-bound colonial bureaucracy to one rooted in the national ethos.
- "…now, you are serving your own people, so you have to serve with your heart and mind and soul…" (Sardar Patel while inaugurating the new IAS in 1947)

NATIONAL PANCHAYATI RAJ DAY

Context :

- The Ministry of Panchayati Raj, in collaboration with the Government of Madhya Pradesh, is celebrating National Panchayati Raj Day (NPRD) on 24th April 2023

- On this day PM will launch an integrated e-GramSwaraj, distribute SVAMITVA property cards to select beneficiaries and launch the AzadiKaAmritMahotsav Campaign for the theme "Inclusive Development" – "SamaaveshiVikas".

About National Panchayati Raj Day :

	Information
Name	National Panchayati Raj Day
Date	24th April
Started in	2010
Purpose	To commemorate the enactment of the 73rd amendment of the Constitution, which established Panchayati Raj Institutions (PRIs) in India
Background	The 73rd Constitutional Amendment Act, 1992 constitutionalized PRI to build democracy at the grassroots level and was entrusted with the task of rural development in the country
Awards Presented on this day	DeenDayalUpadhyayPanchayatSashaktikaranPuraskar; Nanaji DeshmukhRashtriyaGaurav Gram SabhaPuraskar; Child-friendly Gram Panchayat Award; Gram Panchayat Development Plan Award, and e-PanchayatPuraskar (given to States/UTs only)
Salient Features	The three-tier system of panchayats at the village; Seats reserved for SCs and STs in proportion to their population; One-third of the total number of seats reserved for women; Uniform five-year term for Panchayats; Power of Panchayats to prepare plans for economic development and social justice in respect of subjects illustrated in Eleventh Schedule
About e-Gram Swaraj Portal	It is a user-friendly web-based portal that unifies the planning, accounting, and monitoring of Infrastructure projects and the functions of Gram Panchayats
About Swamitva programme	It involves mapping rural housing and land holdings via technology including drones.

4. Historic Person's

B.R. AMBEDKAR REMEMBRANCE DAY (14TH APRIL)

- To honour B.R. Ambedkar's memory, B.R. Ambedkar Remembrance Day is celebrated on 14th April. This is one of the most important days in April because it commemorates the date of birth of the great Indian social reformer and jurist, Dr Bhimrao Ambedkar's birthday.

SACHIN TENDULKAR BIRTHDAY

- Born on this day in 1973, Sachin Ramesh Tendulkar is a former international cricketer who captained the Indian national team. Because of his exceptional performance, he is regarded as one of the greatest batsmen in the history of cricket. He received the Arjuna Award and the Khel Ratna Award, India's highest sporting honour.

- He was also awarded the Padma Shri and Padma Vibhushan awards in 1999 and 2008, respectively. Tendulkar played 664 international cricket matches in total, scoring 34,357 runs.

TEEJAN BAI BIRTHDAY

- Born on this day in 1956- Teejan Bai is an exponent of Pandavani, a traditional performing art form, from Chhattisgarh. She enacts tales from the Mahabharata. She has been awarded the Padma Shri in 1987, Padma Bhushan in 2003, and Padma Vibhushan in 2019 by Government of India.

- President Kovind presents Padma Vibhushan to Dr Teejan Bai for Arts. A renowned exponent of Pandwani, a traditional performing art of Chhattisgarh, she has been enacting tales from the Mahabharata, with musical accompaniments.

5. Book Author's

ORU PANPATTIN PAYANAM SINDHU MUDHAL VAIGAI VARAI

- Recently Tamilnadu CM launched the book named Oru Panpattin Payanam Sindhu-Mudhal Vaigai Varai.

- These book that traces the connections between the Indus Valley civilisation and Dravidian history.

- The book is the Tamil translation of former IAS officer R Balakrishnan's book Journey of a Civilisation : From Indus to Vaigai

- Balakrishnan's book attempts to trace a history of the Indus Valley civilisation and says that the original inhibitors of the civilisation were Dravidian.

IV. History – Historical events
Jallianwala Bagh Massacre : 104 years of Tragedy

Jallianwala Bagh Massacre :

- On 13 April, we pay tribute to the martyrs who have sacrificed their lives in Jallianwala Bagh at Amritsar.

- Their valour will inspire Indians for the years to come.

- Today, India commemorates 104 years of the incident that took hundreds of lives. Take a look at Jallianwala Bagh Massacre, its causes, and its impact.

- The Jallianwala Bagh Massacre, also known as the Massacre of Amritsar, was an incident that took place on April 13, 1919.

- That day, British troops fired on a large crowd of unarmed Indians in an open space called the Jallianwala Bagh in Amritsar, in the Punjab region (now in Punjab state) of India.

- Several hundred people, including children, died, and hundreds more were wounded.

- This incident is a turning point in India's modern history that led to Gandhi's full commitment to the cause of Indian nationalism and independence from Britain.

- No doubt, the incident left a permanent scar on Indo-British relations.

- This massacre exposed the inhuman approach of the British when the British troop coldbloodedly opened fire on an unarmed crowd without any warning by General Dyer who had assembled at the enclosed park for the public meeting that was banned.

About :

- On 13 April 1919, people gathered at Jallianwala Bagh (Amritsar) to protest against the arrest of the two nationalist leaders, Satya Pal and Dr Saifuddin Kitchlew.

- Suddenly, a British military officer, General Dyer, entered the park with his troops.

- Without even giving a warning to the people to disperse, he ordered his troops to fire at the unarmed crowd for ten minutes and when their ammunition was exhausted, they left.

- In those ten minutes, according to the estimates of the congress, about a thousand persons were killed and about 2000 wounded.

- The bullet marks can be still seen on the walls of the Jallianwala Bagh which is now a national memorial.

- The massacre had been a calculated act and Dyer declared with pride that he had done it to produce a 'moral effect' on the people and that he had made up his mind that he would shoot down all men if they were going to continue meeting.

- He had no regrets. He went to England and some Englishmen collected money to honour him.

- Others were shocked at this act of brutality and demanded an enquiry.

- A British newspaper called it one of the most bloody massacres in modern history.

- About 21 years later, on 13 March 1940, Udham Singh, an Indian revolutionary, shot Michael O'Dwyer dead who was the Lt.

- Governor of Punjab at the time of the Jalliawala Bagh massacre.

- The massacre aroused the fury of the Indian people and the government replied with further brutalities.

- People in Punjab were made to crawl on the streets.

- They were put in open cages and flogged.

- Newspapers were banned and their editors were put behind the bars or deported.

- A reign of terror, like the one that followed the suppression of the revolt of 1857, was let loose.

V. Polity
Japan's New Plan for a Free and Open Indo-Pacific (FOIP)
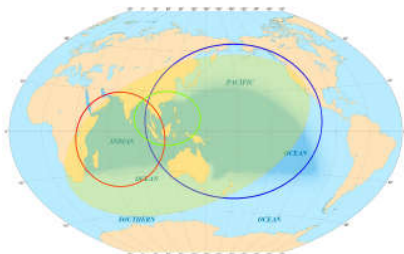
Context :

- During his visit to India, the Japanese PM unveiled Japan's New Plan for a FOIP and exchanged views about deepening the Japan-India Special Strategic and Global Partnership.
- Japan's New Plan for the FOIP: It lays stress on the need to uphold the rules-based order and respect each other's territorial sovereignty, at a time when the international community is at a historical turning point.

Four pillars of cooperation under the new FOIP :

- Principles for peace and rules for prosperity: Japan wants to engage in economic development programmes such as the G-20 Principles for "Quality Infrastructure Investment".
- Addressing challenges in an Indo-Pacific way: Incorporating realistic and practical projects in a wide range of areas, such as climate change, food security, global health and cybersecurity.
- Multi-layered connectivity: The 3 areas identified for introducing more such projects are Southeast Asia, South Asia and the South Pacific/Pacific Island countries. Japan has made a new commitment of
  - $100 million towards the Japan-ASEAN Integration Fund;
  - It will promote the Bay of Bengal-Northeast India industrial value chain concept in cooperation with India and Bangladesh, etc.
- Extending efforts for security and safe use of the "sea" to the "air": Japan will help in strengthening the capabilities of maritime law enforcement agencies in other countries. Towards these objectives,
  - Japan will implement the "strategic use of Official Development Assistance (ODAs)".
  - Japan also announced to mobilise a total of more than $75 billion in public and private funds by 2030 for infrastructure development.

What does Japan's New Plan for the FOIP signify?

- Japan needs to do much more in the region.
- Japan is preparing itself for any unforeseen threat to its own as well as regional security.
- To reinforce the idea that Japan has been the
  - The main champion of the FOIP concept
  - Central in the emerging geopolitics of the Indo-Pacific
- With recent global developments (Russia-Ukraine war, Chinese assertiveness in the SCS, ECS, the Indian LAC, and the Taiwan Straits), there is a need to give a fresh push and momentum to the FOIP concept.
- It focuses on the numerous challenges facing the Indo-Pacific such as the lack of a united stand on "what the international order should be?".

Pros of FOIP :

- Embrace diverse voices and create an atmosphere of cooperation and collaboration (rather than division and confrontation) rule-making through dialogue.

India and Japan relations :

- Notwithstanding some differences in the Ukraine conflict, Japan remains one of India's closest friends in Asia given their shared concerns over the aggressive Chinese activities.
- Japan deeply invested in Indo-Pacific stability and prosperity is good news indeed for India and the wider region.

India and FOIP :

- India is an indispensable
- Japan's concept of FOIP is like India's concept of the Indo-Pacific Oceans Initiative (IPOI), which has seven pillars:
  ○ Maritime Security;
  ○ Maritime Ecology;
  ○ Maritime Resources;
  ○ Capacity Building and Resource Sharing;
  ○ Disaster Risk Reduction and Management;
  ○ Science, Technology and Academic Cooperation; and
  ○ Trade Connectivity and Maritime Transport.

Conclusion :

- Both India and Japan should cooperate to build consensus on the new FOIP during the G-7 and the G-20 (Japan and India hold their presidencies, respectively) summits.

Use of AI for Legislation

ENVI Context :

- Most mature democracies are now using Artificial Intelligence (AI) tools for better pieces of legislation and parliamentary procedures.

How AI tools can assist parliamentarians?

- In preparing responses for legislators,
- Enhancing research quality,
- Obtaining information about any Bill, preparing briefs,
- Providing information on particular House rules, legislative drafting, amendments, interventions, etc.
- AI can also empower legislators to make informed decisions by having access to
  ○ Insights into citizen grievances,
  ○ Media opinions, and
  ○ Voices of citizen-centric associations.

In India,

- Parliamentarians manage large constituencies.
- AI can analyse citizens' grievances and social media responses, and flag issues and priorities that need immediate attention.
- It can also assist parliamentarians in seeking citizen inputs for public consultation of laws and preparing a manifesto.

For AI to work in India :

- First, laws need to be codified: The current laws are opaque, and complex and there is a huge translation gap between law-making, law-implementing and law-interpreting organisations.
  ○ The Indian government has set up the India Code portal.
- The interface should contain a complete chain: Right from the parent Act to the subordinate pieces of legislation enabling any entity to get a 360° view.

○ This becomes more critical in special situations such as COVID-19. For example, the central government issued over 900 while State governments issued over 6,000 notifications.

How will this aid?

- Can act as a single window platform. For example,
  ○ If an entrepreneur wants to open a manufacturing unit in Maharashtra, AI can tell what acts and compliances are applicable.
  ○ If a citizen wants to check the eligibility for welfare schemes, AI can recommend which schemes are eligible, based on details provided by citizens.
- Can also simulate the potential effects of laws. For example, various datasets such as the Census, data on household consumption, and taxpayers, can be modelled.

- Can uncover potential outcomes of a policy.
- Can flag outdated laws.

Global best Practices :

- The House of Representatives in the US: Introduced an AI tool to automate the process of analysing differences between Bills, amendments and current laws.
  - This is to readily see the impact of amendatory provisions in Bills that they move through the legislative process.
- The Netherlands House of Representatives: "Speech2Write"

system converts voice to text and "translates" voice into written reports.
- Japan's AI tool: Assists in the preparation of responses for its legislature and also helps in the automatic selection of relevant highlights in parliamentary debates.
- Brazil: Ulysses system supports transparency and citizen participation.

Initiatives in India :

- The 'One Nation, One Application'
- The National e-Vidhan (NeVA) portal

Way ahead :

- The use of AI must be encouraged in an open, transparent, and citizen-friendly
- To be mindful of the fact that AI is a means to an end and not an end in itself.

Conclusion :

- The COVID-19 pandemic has given a strong thrust to the Digital India initiative and the digitisation of services.
- This momentum needs to be kept up and utilised in the field of law, and policy-making, by harnessing the power of AI.

Government Introduces Aquaculture

Context :

- Recently the Coastal Aquaculture Authority (Amendment) Bill, 2023 was introduced in LokSabha.

About Aquaculture :

- Aquaculture refers to the production of aquatic animals and plants under controlled conditions.

Feature	Description
Purpose of the bill	To amend the Coastal Aquaculture Authority Act, of 2005
Introduced by	Ministry of Fisheries, Animal Husbandry and Dairying
Need	Seeks to decriminalize certain offences listed under the earlier 2005 Act to promote ease of doing business
Operational Procedures	Fine-tunes the operational procedures of the Coastal Aquaculture Authority
Promotion of Environment-friendly Practices	Promotes newer forms of environment-friendly coastal aquaculture, including cage culture, seaweed culture, marine ornamental fish culture, and pearl oyster culture
Employment Opportunities	Intended to create additional employment opportunities
Antibiotic Use	Prohibits the use of antibiotics and pharmacologically active substances harmful to human health in coastal aquaculture

Government Initiatives Related to Fisheries :

- MatsyaSetu
- Blue Revolution

- Fisheries and Aquaculture Infrastructure Development Fund (FIDF).
- Kisan Credit Card (KCC)

- Marine Products Export Development Authority (MPEDA)
- PradhanMantriMatsyaSampadaYojana

The IT (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023

Context :

- The Meity notified amendments to the IT Rules 2021 related to online gaming.

What are the Amendments?

Amendments	Explanation
Fixing responsibilities of intermediaries	It is obligatory on the part of intermediaries : • To make a reasonable effort to not host/publish/share any online game that • Can harm the user harm • Has not been verified by an online gaming self-regulatory body. • To ensure that no advertisement of a non-permissible online game is hosted on its platform. • In relation to online games involving real money, their responsibilities include • The displaying of a mark of verification by the self-regulatory body; • Informing their users of the policy for withdrawal or refund of the deposit, etc; • Obtaining the KYC details of the users; and • Not giving credit or enabling financing by third parties to the users. • To not publish, share or host fake, false or misleading information (will be identified by the notified Fact Check Unit of the Central Govt) in respect of any business of the Central Government.
Setting Role of Government	May notify multiple self-regulatory bodies, which shall be representative of the online gaming industry but function at arm's length from their members.
Role/authority of the self-regulatory body	• To inquire and satisfy itself that the online game does not involve betting/gambling on any outcome. • To ensure that the online game complies with the rules/requirements under the law, including measures to safeguard through parental controls, etc.
Applicability of rules	The obligations become applicable once a sufficient number of self-regulatory bodies have been designated so that the online gaming industry has adequate time to comply.

Proposal on the fact-checking unit :

- Earlier the Ministry had proposed that news identified as "fake" by the fact checking unit of the PIB will not be allowed on online intermediaries.
  - However, the final draft has removed the reference to PIB.

- The social media platforms have sent a proposal to the Centre to create a network of fact-checkers Mis-information Combat Alliance who will verify dubious content posted on their platforms.
- The alliance will act as a "certification body" that will verify who a "trusted" fact-checker is.

The aim of these amendments :

- To enforce greater due diligence by online gaming and social media intermediaries.
- To protect the safety and trust of the Digital Nagriks and provide every opportunity possible to create startups and innovate.
- Enable the Indian online gaming ecosystem to expand and grow and become an important catalyst to India's One trillion-dollar Digital economy goal by 2025-26.

Defamation law

Context :

- The defamation law in India has come under scrutiny once again following the conviction of a Congress leader (Rahul Gandhi) in a 2019 defamation case.

Background :

- In 1860, the British imported their idea of criminal defamation into the newly-minted Section 499 of the Indian Penal Code (IPC).

Defamation – Meaning (Section 499)	A person is said to be defamed when someone makes or publishes any accusations about them with the intent of damaging their image through words, signs, or other visible representations.	
Types – Civil and Criminal:	In civil defamation, a person who is defamed can move either HC or subordinate courts and seek damages in the form of monetary compensation.	In criminal defamation (Section 500), the person against whom a defamation case is filed might be sentenced to two years imprisonment or fined or both.

The law of defamation and right to free speech [Article 19 (1)(a)] :

- Exceptions to defamation: Absolute truth and what is for the public good.
- The criminality of defamation was challenged in the SC on the grounds that it was an unreasonable restriction on the constitutionally-guaranteed right to freedom of speech and expression.
- However, the apex court upheld the British-era Section (Subramanian Swamy V. The Union of India 2016).

Analysing the 2016 SC verdict :

Article 21 vs 19 (1)(a) :

- The court held that the right to "reputation" was protected under Article 21 of the Constitution which guarantees "life and personal liberty".
- The right under Article 19(1)(a) had to be "balanced" against the right to "reputation" under Article 21.
- Thus, the court elevated "reputation" to the level of a fundamental right and made it prevail over free speech.
- Over the years, the court has expanded the scope of Article 21 to force the state to undertake various "social justice" measures.

- But in this case, the SC used Article 21 as a sword to cut down the fundamental right to freedom of speech and expression ("death by Article 21").

Invoking 'constitutional fraternity':

- The court held that criminal defamation law protected the feeling of fraternity (mentioned in the preamble as an aspirational goal alongside "liberty" and "equality")/solidarity between members of society.
- However, "constitutional fraternity" is not a part of Article 19(2), which specifically limits the circumstances under which the state can restrict speech.
- "Liberty cannot be divorced from equality; equality cannot be divorced from liberty. Nor can liberty and equality be divorced from fraternity." (B.R. Ambedkar)

Issues with the court's verdict :

- No mention of the fact that Section 499 does not allow for "honest mistake" as a defence.
  - The SC (previously) had found the civil law of defamation unconstitutional/disproportionate restriction upon free speech since it did not allow for "honest mistake".
- Dismissal of the claim that criminal defamation creates a chilling effect upon speech.
- The SC has always had an ambivalent relationship with the freedom of speech and expression.

Conclusion :

- The court had to construct novel arguments which will have serious and unfortunate implications for the freedom of speech and expression in the coming years.

SC : Critical views on government policies not anti-establishment

Context :

- The SC set aside the Centre's order refusing to grant the renewal of the broadcast licence to a Malayalam news channel (Media One).

Background :

- The Ministry of Information and Broadcasting refused to renew the broadcast licence of the news channel on the ground that the Ministry of Home Affairs had declined (based on IB report) security clearance over alleged links with the Jamaat-e-Islami-Hind (JEIH).
- The channel approached the Kerala HC against the Centre's action, which had upheld the ban on the channel on the grounds of national security.
  - The government is at liberty to decline to renew the permission granted without disclosing complete reasons for the non-renewal.
- The SC set aside the Kerala HC order and directed that the licence be renewed in four weeks' time.

What the channel's promoters contended in the SC?

- They were not given a chance to defend themselves as the national security reasons were submitted to the HC in a sealed cover (in the public interest).
- The fundamental right to freedom of speech and expression [Article 19(1)(a)], which includes press freedom, can be restricted under Article 19(2) and there was no allegation that the channel violated the Program Code.

Reasonable restrictions

- These are outlined in Article 19(2) of the Constitution allowing for restrictions (on freedom of speech and expression) in the interests of the
  - Security and sovereignty of India,
  - Friendly relations with Foreign States,

- Public order,
- Decency or morality in the relation to contempt of court,
- Defamation or incitement to an offence.

What did the SC say?

- The top court was critical of the sealed cover procedure adopted in the HC and the "cavalier manner" in which the Centre raised the claim of national security.
- Opinions that are critical of government policies are not anti-establishment.
- It would be impracticable and unwise for the courts to define the phrase national security.
- National security claims cannot be made out of thin air and there must be material backing such inference.
- National security is being used as a tool by the government to deny people legal recourse - not compatible with the rule of law.
- JEIH is not a banned organisation and it is unclear how links with the organisation would affect the sovereignty and integrity, security of the state, etc.

Forest Conservation (Amendment) Bill 2023

Context :

- The government introduced The Forest (Conservation), Amendment Bill, 2023 in LokSabha to make changes to The Forest (Conservation) Act, 1980.

Background :

- Following independence, vast swathes of forest land were designated as reserved and protected forests and brought under state forest departments.
- Many forested areas were left out and areas without any standing forests were included in 'forest' lands.
  - According to the State of Forests Report (SFR 2021), nearly 28%/197,159 sq km (of India's recorded forest cover – 713,789 sq km) is not recorded as 'forest'.
- The anomalies were supposed to be sorted out through extensive ground surveys but the process remained incomplete.
- In 1996, the SC suspended the felling of trees across the country and ruled that the FC Act would apply to all land parcels that were either recorded/ resembled forest.
- This sweeping order helped check rampant deforestation but prevented the exclusion of vast areas already used for agriculture/homesteads.
- The 2023 Bill seeks to limit the applicability of the FC Act only to land recorded as 'forest'.

Key features :

	Act	Bill
Restrictions on activities in the forest	• Restricts the de-reservation of forest or use of forest land for non-forest purposes • Specifies certain activities (conservation, management and development of forest and wildlife) that will be excluded from non-forest purposes	Adds more activities to this list such as: (i) zoos and safaris under the Wild Life (Protection) Act, 1972, (ii) eco-tourism facilities, (iii) silvicultural operations (enhancing forest growth), etc.

Land under the purview	The Bill provides that two types of land will be under the purview of the Act:	
	• Land declared/notified as a forest under the Indian Forest Act, 1927 or under any other law, or	
	• Land not covered in the first category but notified as a forest on or after October 25, 1980 in a government record.	
Exempted categories of land	The Bill exempts certain types of land from the provisions of the Act such as –	
	• Forest land along a rail line or a public road maintained by the government	
	• Land situated within 100 km along the international borders	
	• Land up to 10 hectares, proposed to be used for constructing security-related infrastructure, etc.	
Assigning of land through a lease or otherwise	The state government or any authority requires prior approval of the central government to direct the assigning of forest land through a lease or otherwise to any organisation not owned by the government.	The Bill provides that such assigning may be done to any organisation subject to terms and conditions prescribed by the central government.
Power to issue directions	The Bill adds that the central government may issue directions for the implementation of the Act to any other authority/organisation under or recognised by the centre, state or UT.	

The predominant idea of the proposed changes :

- To build forest carbon stock by raising plantations.

- To make land available for developers to meet their legal obligation towards compensatory afforestation in lieu of forest land diverted for development projects.

- To achieve both these objectives by
  - Restricting the applicability of the FC Act, and
  - Freeing up land that is currently locked up as unrecorded forests.

Concerns :

- If the scope of the FC Act is restricted, fewer projects will be required to obtain forest clearance → affecting compensatory afforestation.
  - Conservationists see this as a double whammy → losing unrecorded forests to plantations → diverting recorded forests for projects.

- The proposed exemptions leave a lot to the Centre to decide retrospectively.

- Though the Bill keeps up with dynamic changes in the ecology, strategic and economic aspirations, and improvement in the livelihoods of tribals/forest dwellers, it boils down to pushing plantations to achieve carbon neutrality.

Conclusion :

- Forests are a lot more than a sum of trees. Unlike man-made plantations, natural forests perform a range of ecosystem services that are key to the survival and well-being of millions of species.

India-Bhutan Relations

Context :

- Bhutanese King JigmeKhesarNamgyelWangchuck is on a visit to India

Various dimensions of cooperation between India and Bhutan with examples :

Dimension	Examples
Strategic	Bhutan serves as a buffer between India and China, protecting the Siliguri Corridor (also known as Chicken's Neck). The Doklam standoff (2017) has re-established Bhutan's strategic significance for India. Bhutan does not have any formal diplomatic relations with China.
Historical	The Indo-Bhutan Treaty of Peace and Friendship of 1949, is the bedrock of India and Bhutan's relationship
Economic	India is Bhutan's largest trading partner (mostly in electricity). Also, increased trade with Bhutan benefits landlocked states like Assam and Arunachal Pradesh. India has decided to support Bhutan's upcoming 13th Five-Year Plan (for 12 FYP, India had provided 4500Cr)
Cultural and Educational	Buddhism. India also offers various scholarships for Bhutanese students through Nehru-Wangchuck Scholarships, Ambassador's Scholarship
Energy	India has constructed three Hydroelectric Projects in Bhutan (and exporting surplus power to India)-Chhukha HEP, Kurichhu HEP, and Tala HEP. India is also building Mangdechhu, Punatsangchhu 1 and 2 Hydroelectric Power Projects in Bhutan. Also, India will expedite the proposed Kokrajhar-Gelephu rail link project.
Regional	Both nations cooperate in regional forums such as BIMSTEC and SAARC.
Technological	E.g., the E-Library project and the India-Bhutan satellite, India's Vaccine Maitri Initiative
Environmental	India is supporting Bhutan in its efforts to become carbon negative.

Issues between the two countries :

- Border Dispute : Disputes over the exact demarcation of the border between the two countries.

- Hydropower Projects: Concerns in Bhutan over environmental and social impacts from the project. Also, Bhutan has sought greater revenue from these projects

- Trade Imbalance : Bhutan is heavily dependent on India for its imports.

- Cross-Border Movement: Bhutan has restricted the cross-border movement of Indian workers, citing concerns over the impact on Bhutan's culture and society.

- Political Interference: Bhutan has accused India of interfering in its internal affairs, particularly during the 2013 elections.

Conclusion :

- India-Bhutan relations have remained strong and friendly, characterized by a deep sense of trust and understanding. Both countries must enhance connectivity which is a central pillar of India's 'Neighbourhood First' and 'Act East' policies.

Governor-Chief Minister Confrontation

Context :

- The Tamil Nadu Legislative Assembly has passed a resolution urging the Union Government and President to issue instructions to Governor R.N. Ravi to give his assent to bills passed by the Assembly (nearly 20 bills are pending) within a specific period.

Constitutional provisions regarding bills sent to the governor :

- Article 200 : When a bill is sent to Governor after it is passed by the state legislature, he can give his assent to the bill, Withhold his assent, or Return the bill (if it is not a money bill) for reconsideration of the state legislature. However, if the bill is passed again with or without amendments, the governor has to give his assent or reserve the bill for consideration by the President

Issues with the post of Governor :

- There are no clear provisions for the manner in which the Governor and state government must engage publicly when there is a difference of opinion.

- Constitutional loopholes in case of appointment of the Chief Minister or dissolving the Assembly or for how long a Governor can withhold assent to a Bill.

- Critics refer to governors as the 'agents of the Centre': Politicians and former bureaucrats affiliated with the ruling party have been appointed in several instances as Governors

- Governors have passed negative remarks on state administration, law and order, and political violence, which has led to conflicts with state governments.

- There is no clear distinction between the constitutional and statutory roles of the Governor

Reforms Proposed :

Commission/Committee	Proposed Reforms
Punchhi Commission	The impeachment procedure for the President can be adapted to impeach governors as well. The convention of Governors serving as Chancellors of Universities and holding other statutory positions should be abolished.
2nd Administrative Reforms Commission	The Inter-State Council should formulate guidelines on how governors should exercise discretionary power.
Rajamannar Committee	The governor of the state should not consider himself an agent of the centre but play his role as the constitutional head of the State.
Sarkaria Commission	Governor should be from outside the state. Article 356 should only be used in very rare instances when it is impossible to prevent a breakdown of constitutional machinery within a State.
Venkatachaliah Commission	Governors should be allowed to complete their five-year terms ordinarily. The central government should consult with the Chief Minister before removing them before the end of their term.
SC (NabamRebiaJudgement (2016)	It ruled that the exercise of the Governor's discretion Article 163 is limited and not arbitrary.
NCRWC	Governor should be appointed by a committee comprising the PM, Home Minister, Speaker and CM of state. Punchhi Commission

Foreign Lawyers Practice in India

- The Bar Council of India (BCI) notified the Rules for Registration and Regulation of Foreign Lawyers and Foreign Law Firms in India, 2022

- Now, foreign lawyers and law firms to practise foreign law, international law, international arbitration, joint ventures, mergers and acquisitions, intellectual property matters etc on a reciprocal basis.

- Also, the BCI has the right to refuse to register any foreign lawyer or law firm.

- On March 13, 2018, a division bench of Justices had ruled that foreign law firms or foreign lawyers cannot practise law in the country either on the litigation or non-litigation side.

- However, the court said that there was no bar on foreign law firms or foreign lawyers visiting India for a temporary period for giving legal advice to their clients.

- BCI is a statutory body and it governing legal practice in India

Raising The Bar

As India opens up legal field to foreign lawyers and firms, here's the lowdown on all the changes

WHAT THEY CAN DO

Practise foreign law, diverse international law and international arbitration matters

Set up offices in India

Advise clients on transactional and corporate work

JVs, intellectual property matters, M&As, drafting of contracts among areas opened up

It's only for lawyers from jurisdictions that allow Indian lawyers

WHAT THEY CAN NOT DO

Can't appear before any courts, tribunals

Or any other statutory or regulatory authorities

Can't work on onveyancing of property, title investigation or similar matters

WHY IT MATTERS

Will help attract foreign investment, trading partners

Law firms to benefit from exposure to global best practices

Will provide foreign cos and investors some jurisdictional comfort

CBI's Diamond Jubilee Celebrations

- The CBI is celebrating its 60th anniversary on April 1.

- To marking the Diamond Jubilee Celebration year of CBI, a Postage Stamp and Commemorative Coin were released.

- CBI was established by a resolution of the Union Ministry of Home Affairs dated April 1, 1963.

- The CBI is not a statutory body.

- It derives its power to investigate from the Delhi Special Police Establishment Act, 1946.

- The establishment of the CBI was recommended by the Santhanam Committee on Prevention of Corruption (1962–1964).

The 17th Lok Sabha will be the shortest since 1952

- Very little time is spent on questions in the present Lok Sabha

- The 17th Lok Sabha has entered its final year. So far 230 days of session have been held

- The 16th Lok Sabha has the shortest number of sitting days ever for a full five-year term

- With one year to go, the 17th Lok Sabha is set to create an environment where the average session of the Lok Sabha is 58 in a year for more than 331 days.

- In this context, the 17th Lok Sabha will be the shortest Lok Sabha session since 1952.

Chart 1 :

- It is the sitting day of all the Lok Sabha including the 18th Lok Sabha which is currently going on

- 4th, 6th, 9th, 11th, 12th Lok Sabha is less than 5 year term hence less session

- The 17th Lok Sabha will be the shortest among those Lok Sabhas that lasted for at least 5 years.

- The fifth Lok Sabha lasted six years

- Due to various ongoing disruptions, the current budget session was shortened from January 31, 2023 to April 6, 2023.

- The gap in this series was from February 14 to March 12

- The Lok Sabha held only 33% of the scheduled time (46 hours).

- The Rajya Sabha was held for only 24% (32 hours).

- 5% of the Lok Sabha functioned within the scheduled time after a gap of 15 days. Rajya Sabha was only 6% functional

- Majority of the time was used for the process of filing documents

Chart 2 :

- The percentage of time the Lok Sabha has functioned in the 11 sessions held from 2019 to 2023 is given.

- So far 150 Bills have been introduced in this Lok Sabha and 131 Bills have been passed (Except Finance Bill and Appropriation Bill)

- 38 bills were introduced in the first session and 28 were passed

- Since then the number of bills introduced and passed has been decreasing

- Fewer than ten bills have been introduced and passed in the last four consecutive sessions.

Chart 3 :
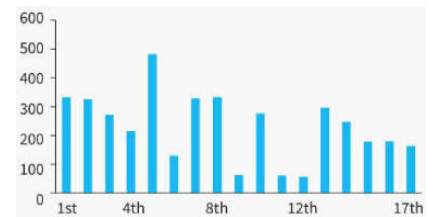
- Number of Bills passed by each Lok Sabha from 1952 to 17th Lok Sabha

- Budget session in 2023 is the 6th shortest budget session since 1952 till date.

- Out of the 18 hours spent by the Lok Sabha on finance, 16 hours have been spent on public debate on the budget

- The budget session in 2022 has spent an average of 55 hours discussing finance.

Chart 4 :
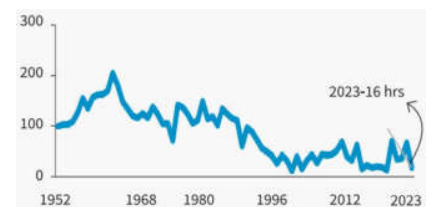
- Time spent on budget discussion (in hours)

- Only the resolution of thanks to the President's speech has been discussed in the last level.

- A total of 150 people were discussed in both Houses for almost 28 hours regarding the resolution of thanks to the President's speech.
- It provides rules of procedure to suit different contexts such as bringing attention to a matter of public importance to both Houses of Parliament.
- It consists of half an hour debate, short debate and adjourned decision
- 11 short debates and one half-hour debate have been held in the 17th Lok Sabha so far
- Both these did not take place in the last budget session.

Chart 5 :
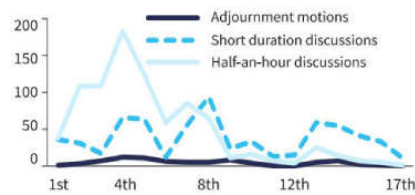
- Number of debates held in Lok Sabha
- Only in the recently concluded budget session has the least amount of time been spent on questions
- 19% of the scheduled time of the Lok Sabha is allocated to question time (9% in Lok Sabha)

- Questions coded in these are answered in both chambers.
- No individual bill was introduced and passed in this session.
- Both Houses have debated an individual resolution.

Chart 6 :

- The Lok Sabha has been scheduled for the last 11 sessions related to Question Time.

Future of Civil Society Organizations in India

What is civil society?

- Civil society consists of a wide array of organizations
- These include community groups, non-governmental organizations, labor unions, indigenous groups, charities, faith-based organizations, professional organizations and institutions, says World Bank

The nature of civil society

- Civil society is sometimes called the third sector (Next to government and business)
- It has the power to influence businesses and the place where it can legislate

- But the very nature of civil society plays an important role in bringing about subtle changes in society and technological development.

Functions of Civil Society

Present Status of Civil Society in India

- Civil society has been structurally suppressed for the past 9 years
- Most governments do not seek the views of civil society organizations even at the pre-

legislative stages of establishing plans to address problems in their implementation.

Importance of civil society

- Advocacy for civil society is currently dormant
- Civil society's capacity to shape policies and express opinions on public affairs is diminished

The cause of suppression of civil society

- Civil society is now acting in a new way on war and foreign intervention is the cause of repression
- And civil societies are constrained by the Foreign Contri-

bution (Regulation) Act in securing provision for themselves

- Withdrawal of 12A/80-G Insisting on regressive taxation and pressure on private companies and welfare people, civil society is suppressed.

- That's because the current Union government's development focuses on big projects rather than people

- Hence civil society is maligned

as anti-national to the development of India

- Civil society is a threat to integrity. The reason is that society acts as a safety valve for political tensions

Necessary for the development of civil society

- Private charities and organizations need to realize that they are the lifeblood of progressive civil societies

- It is easy to support organizations that work on soft issues that are not dominated by the powers that be

- Conscientious Indians should work together to build a civil society which is considered as the fifth pillar of Indian democracy.

- Only through such a principled alliance can political system ideas be preserved in India.

MUDRA

Aim

- MUDRA stands for Micro Enterprises Development and Refinance Agency

- The objective of this scheme is to ensure easy access to credit for micro, small, medium enterprises and companies engaged in service industries

- Also, MUDRA loan is provided to small businesses, self-employed people and those who want to start a new business

- Under the MUDRA scheme, loans are provided through banks, non-commercial financial institutions, micro-credit institutions, rural banks, cooperative banks.

- Its specialty is that the loan is provided without any collateral

Loan

- Under the MUDRA scheme, loans are provided in 3 categories namely Tharun, Kishore and Sishu

- Loans are available up to Rs 50,000 under Sishu category, Rs 50,000 to Rs 5 lakh under Kishore scheme and Rs 5 lakh to Rs 10 lakh under Tharun scheme.

- There is no processing fee for loans up to Rs 50,000

- A processing fee of 0.5% is charged for loans above Rs 50,000

- Under this scheme, large loans are to be repaid within one to seven years

- The rate of interest varies from time to time as per the guidelines of Reserve Bank of India.

You can find out about this by approaching the loan receiving branch

- Initially, loans were given only to companies engaged in manufacturing, trading and services

- From 2016-17, credit is also extended to agriculture-related industries, including poultry farming

- From 2017-18, the loan is for purchase of tractors, power tillers and from 2018-19 for purchase of two-wheelers for commercial purposes.

23.2 Lakh Crore loan in 8 years

- The most commendable achievement of this program is the generation of women entrepreneurs in large numbers

- 69% of borrowers under MUDRA scheme are women entrepreneurs

MUDRA loan disbursed in 8 years

Type of loan	Number of users (%)	Loan amount disbursed (%)
Shishu (upto Rs 50,000)	83%	40%
Kishore (upto Rs 5 L)	15%	36%
Tarun (upto Rs 10 L)	2%	24%
Total	100	100

- MUDRA loan scheme is also playing an important role in the development of MSMEs
- Especially from small traders to small enterprises, MUDRA loans are helping to escape from the clutches of money-lenders.

Immediate case against hate mongers – Supreme Court order

Hate speech

- Hate speech is on the rise in Delhi, Uttar Pradesh and Uttarakhand

Cases related to hate speech

- Although no complaint has been filed regarding hate speech, the state governments have ordered the three concerned states to file a case voluntarily without waiting for it

- In this case, journalist Shaheen Abdullah filed a new petition in the Supreme Court seeking to extend this order to apply to all states
- Anti-religious awareness talks have the potential to disrupt the secular fabric of the country
- This should be treated as a very serious offence. This poses a huge threat to a country that maintains religious neutrality

Investigation

- Delay in filing the case will be treated as contempt of court. Strict action will be taken against officials who fail to perform their duty
- Anyone who speaks hate speech should be prosecuted without discrimination irrespective of their religion.
- Only then will the secular nature of the country be preserved

VI. Public Awarness and General Administration

RARE DISEASES

Context :

- The Indian government has exempted all imported medicines and foods for personal use related to the management of 51 rare diseases (as listed in NPRD 2021) from basic customs duty.

- The government has also fully exempted Pembrolizumab (Keytruda) used in the treatment of various types of cancer

About Rare diseases	Information
Definition	A rare disease (also called "Orphan" disease) is a condition that affects a small number of people compared to the general population— one or less than one per 1000 people (WHO); one or less than one in 2500 (India definition). There are 7,000 known rare diseases (over 72% of them are genetic) with an estimated 300 million patients in the world.
Examples	lysosomal storage disorder, maple syrup urine disease, Severe food protein allergy, Wilson's disease
Benefits of exemption	The exemption will lead to substantial savings for patients with rare diseases, who are often unable to afford life-saving medicines due to prohibitive costs
Process	People importing them have to obtain a certificate from the central or state director general of health services or district medical officer or civil surgeon. These certificates have to be provided to the customs officers at the time of clearance.
Challenges of rare diseases	Patients with rare diseases are disadvantaged by the lack of volumes that usually spur pharmacological companies into producing life-saving medicines
The magnitude of rare diseases in India	An estimated 100 million people in India have some form of rare diseases
National Policy for Rare Diseases (NPRD), 2021	Group 1: Disorders amenable to one-time curative treatment (financial support of up to Rs. 20 lakh under the umbrella scheme of RashtriyaArogyaNidhi) Group 2: Those requiring long-term or lifelong treatment. Group 3: Diseases for which definitive treatment is available but challenges are to make an optimal patient selection for benefit, very high cost and lifelong therapy

How is a 'National Party' in India defined?

Context :

- The Election Commission of India (ECI) recognised the AAP as a national party while revoking the status of the All-India Trinamool Congress, NCP and the CPI.

Other decisions taken by ECI :

- Revoked the state party status granted to RLD in UP, while recognising NCP and Trinamool Congress as state parties in Nagaland and Meghalaya respectively.

- Granted "recognised state political party" status to the Lok-Janshakti Party (Ram Vilas) in Nagaland, etc.

National parties in India

Criteria :

- As per the ECI's Election Symbols (Reservation and Allotment) Order 1968 [amended from time to time], a political party would be considered a national party if it fulfils any one of the below conditions:

  ○ It is 'recognised' in four or more states as a state party [AAP fulfils this criterion]; or

  ○ Its candidates polled at least 6% of total valid votes in any four or more states in the last LokSabha or Assembly elections and has at least four MPs in the last LokSabha polls; or

  ○ It has won at least 2% of the total seats in the LokSabha from not less than three states.

State parties

- To be recognised as a state party, a party need:
  - At least 6% vote-share in the last Assembly election and have at least 2 MLAs; or
  - Have a 6% vote share in the last LokSabha elections from that state and at least one MP from that state; or
  - At least 3% of the total number of seats or three seats, whichever is more, in the last Assembly elections; or
  - At least one MP for every 25 members or any fraction allotted to the state in the LokSabha; or
  - Have at least 8% of the total valid votes in the last Assembly election or LokSabha election from the state.

Benefits :

- If a party is recognised as a National Party/State Party, they can avail following benefits under the RPA 1951,
  - It is entitled to exclusive allotment of its reserved symbol to the candidates throughout India (for the national party) in the State in which it is so recognised (for the state party).
  - Need only one proposer for filing the nomination and are also entitled to two sets of electoral rolls free of cost at the time of revision of rolls.
  - Their candidates get one copy of the electoral roll free of cost during the General Elections.
  - They get broadcast/telecast facilities over Akashvani/ Doordarshan during general elections.
  - A recognized National or State party can have a maximum of 40 "Star campaigners" [registered unrecognised party – 20].

Parties recognised :

- BJP, Congress, CPI(M), BSP, National People's Party (NPP) and the AAP

Examples :

- DMK in Tamil Nadu, BJD in Odisha, YSRCP in Andhra Pradesh, RJD in Bihar, or TRS in Telangana

Changing definition of Rural–Urban areas in India

Context :

- Economic Advisory Council to the PM has suggested tweaking the definition of rural-urban areas.

Issues with current classification :

- Current classification uses a combination of administrative definition and census criteria, which are often inadequate in capturing the speed and scale of urbanization in India. As a result, urban areas are often governed by panchayats, which are less efficient in the provisioning of public goods than urban local bodies

Suggestions :

- The definition should be tweaked by including technological indicators like night-time light intensity
- Establishing a trigger mechanism to allow automatic transition from rural to urban settlement after the prescribed threshold is reached.
- Government should revisit the assumption of creating schemes based on the rural-urban divide

Current Definition

- As of 2017, any settlement that is not considered 'urban' is automatically considered 'rural'.

Two types of urban settlements :

- Administratively urban settlements: They are those that are governed by an Urban Local Body (ULB).
- Census Urban Settlements : They are those that have a population greater than 5000, 75% of the male population working in non-agriculture, and a density of 400 people per sq. Km.

National Medical Devices Policy 2023

Context :

- Indian Union Cabinet has approved the National Medical Devices Policy, 2023

Need for the policy :

- Nearly 80% of the medical devices currently sold in the country are imported, particularly high-end devices.

- India has one of the lowest per capita spending on medical devices at $3 compared to the global average of per capita consumption at $47.

The objective of the Policy :

- Facilitating orderly growth: The medical devices sector is a fast-growing sunrise sector in India with a 5% share in the global medical device market.

- Accelerated growth with a patient-centric approach

- Achieving a 10-12% share in the expanding global market over the next 25 years (from 1.5% currently)

- Expanding market size to $50 billion by 2030 (from current $11 billion)

- Providing an enabling ecosystem for manufacturing

- Encouraging domestic investments and production of medical devices

- Promote the safety and efficacy of medical devices.

- Provide support in training and capacity-building programs

Strategies to Promote Medical Device Sector :

Strategy	Example
Streamlining Regulatory Processes	Creation of a Single Window Clearance System for Licensing of Medical Devices; coordination between all the stakeholder departments/organizations such as AERB, MeitY, DAHD, etc., Enhancing the role of Indian Standards like BIS; Designing a coherent pricing regulation.
Enabling Infrastructure	Developing medical device parks and clusters in line with the National Industrial Corridor Program and the proposed National Logistics Policy 2021 under the ambit of PM Gati Shakti.
Facilitating R&D and Innovation	Supporting R&D and innovation through the establishment of Centres of Excellence in academic and research institutions, innovation hubs, 'plug and play' infrastructures and support to start-ups.
Attracting Investments in the Sector	Supporting investments through schemes and interventions like Make in India, Ayushman Bharat program, Heal-in-India, Start-up mission, and encouraging public-private partnerships.
Human Resources Development	Skilling, reskilling, and upskilling of professionals in the medical device sector; Supporting dedicated multidisciplinary courses for medical devices in existing institutions; Developing partnerships with foreign academic/industry organizations.
Brand Positioning and Awareness Creation	Initiating studies and projects for learning from best global practices of manufacturing and skilling systems, promoting more forums to bring together various stakeholders for sharing knowledge, and building strong networks across the sector.

Government Initiatives :

- PLI Scheme for medical devices: A total of 14 projects producing 37 products commissioned

- Manufacturing of high-end medical devices has started which include Linear Accelerator, MRI Scan, CT-Scan, Mammogram, C-Arm, MRI Coils, high-end X-ray tubes, etc.

- Support for setting up of 4 Medical devices Parks in the States of Himachal Pradesh, Madhya Pradesh, Tamil Nadu, and Uttar Pradesh

- Medical Devices Rules in 2017: The rules classify medical devices into four classes based on associated risks and international standards.

- National Health Policy 2017: It highlights the need to promote R&D and domestic manufacturing of medical devices

Conclusion :

- The policy is expected to provide the required support and directions to strengthen the medical devices industry into a competitive, self-reliant, resilient, and innovative industry that caters to the healthcare needs of India and the world.

National Rabies Control Programme

- The Central Government has launched the National Rabies Control Programme (NRCP) for prevention and control of Rabies.

- The Strategies of the National Rabies Control Program are as follows:

  ○ Provision of rabies vaccine & rabies immunoglobulin through national free drug initiatives

  ○ Training on appropriate animal bite management, prevention and control of rabies, surveillance and intersectoral coordination

  ○ Strengthening surveillance of animal bites and rabies deaths reporting

  ○ Creating awareness about rabies prevention

- 'National Action Plan for Dog Mediated Rabies Elimination (NAPRE) from India by 2030' also was launched recently.

- The stray dog population control and management of the stray dogs is the mandate of the local bodies.

Rabies is a major public health problem

World Health Organization

Fatal once symptoms appear

One death every 15 min worldwide

99% human cases result from dog bites

4 out of 10 deaths are in children

Zero by 30
28 September - World Rabies Day
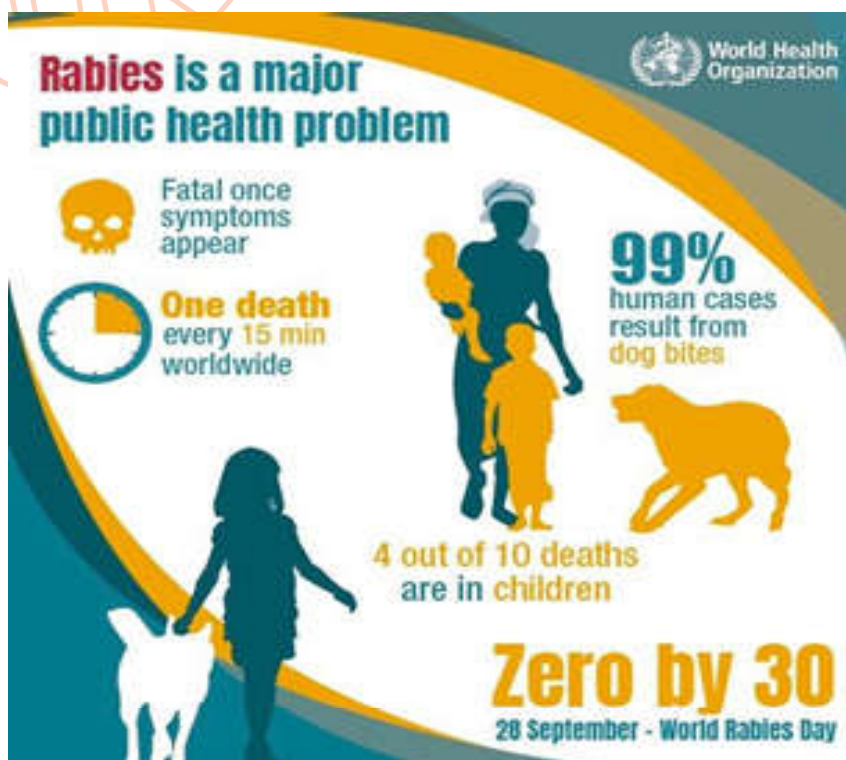
Country-Level Model for Estimating TB Cases

- India has become the first country in the world to develop a sophisticated mathematical model to track the spread of tuberculosis (TB) cases.

- It is based on the natural history of the disease, individual cases of infection, healthcare-seeking behaviour, missed or correct diagnosis, treatment coverage, and outcome.

- According to WHO estimates, the TB incidence rate (per 10,000) in India in 2021 was 210.

- Using the Indian mathematical model, it was estimated to be 196 in 2022.

- The WHO estimated that the TB incidence absolute number to be 29.50 lakh in 2021.

- The Indian model suggested it was 27.70 lakh in 2022.

- According to WHO, the TB mortality rate (per 10,000) in 2021 was estimated to be 35, which reduced to 23 in 2022 as per the Indian model.

- WHO's TB mortality absolute numbers were estimated to be 4.94 lakh in 2021.

- The Indian model suggested it was 3.20 lakh in 2022.

- In 2022, a total of 23,58,664 patients were diagnosed with drug-susceptible TB (DSTB).

- The treatment initiation rate among the notified cases for 2022 was 95.5 per cent.

- The highest case notification rate among States was seen in Delhi (546 per lakh population).

- The lowest among States was seen in Kerala (67 per lakh population).

Asia's Longest Underwater Hydrocarbon Pipeline

- The longest underwater hydrocarbon pipeline in Asia runs beneath the Brahmaputra.
- This world's second-longest pipeline connects the river island Majuli with Jorhat in upper Assam.
- The laying of 24-inch diameter and 5780-metre-long pipeline was completed by the Indradhanush Gas Grid Limited (IGGL).

New Scheme for Government School Students

- Chief Minister M K Stalin launched Thiranari Thervu Thittam (Aptitude scheme).
- 1,000 students (500 boys and 500 girls) studying in class X will be chosen for this scheme.
- A stipend of Rs 1,000 will be provided every month until they finish Class 12.
- Students selected under this scheme will also get Rs 12,000 as stipend annually during their under-graduation and post-graduation.
- Under the initiative, IIT-M will connect one lakh students studying in rural locations of the State.
- Part of the 'Anaivarukkum IIT-M' (IITM for all) initiative, this outreach programme on STEM aims to motivate students to take up a career in semiconductor technologies.

India's First Cool Roof Policy

- Hyderabad municipal administration and urban development department has launched India's first Cool Roof Policy 2023-2028.

- The policy aims to drive state-wide adoption of cool roofs by making it mandatory to install cool roofing materials, such as solar reflective paints, tiles or sheets.

- It planned to achieve a target of implementing clean roofing technology across 300 square kilometres of roof area majorly (200 sq km).

What is cool roof programme

- It is a simple and effective way to fight heat
- It's aimed at saving energy, increasing thermal comfort and reduce cooling demand
- The primary function is to reflect more sunlight on the roof back to the atmosphere
- This can be done using paints, tiles or other materials to reflect sunlight and retrofitted in existing buildings

COOL ROOFING MATERIAL

Coated cool roofs
These are coated with material or paint with high reflectivity on a conventional roof to increase the Solar Reflective Index

Membrane cool roofs
Pre-fabricated materials like membranes or sheets are used to cover the roof

Tiled cool roofs
High albedo, ceramic mosaic tiles or shingles are laid on the convectional roof

HOW DOES IT HELP TS

- The State can save approximately 600 mn units (Gwh) of electricity per year after 5 years with 300 sq km of cool roof area
- Retrofitting 100 mn sft of roof has an effect on radiative forcing equivalent to a one-time offset of 10 tonnes of CO2
- If TS covers 300 sq km with cool roofs in 5 years, it can lead to a one-time carbon offset of 30 million tCO2

VII. Welfare Oriented Schemes and their Utility, Problem in Public Delivery System

Central Government

50 Years Since the Kesavananda Bharathi Judgment

- On the 50th anniversary of the historic Kesavnanda Bharathi judgment which held that Parliament cannot introduce an amendment affecting the fundamental rights of the Constitution of India, the Supreme Court has published all the arguments on that judgment on a special website.

Kesavanada Bharathi

- Kesavnanda Bharathi from Kerala filed a case in the Supreme Court against the Land Reforms Act of 1970.

- A 13-judge bench heard the case and delivered its verdict on April 24, 1973

- In this, 7 judges gave a majority verdict that the Parliament cannot bring an amendment to the law affecting the fundamental rights of the Constitution

- It was also clearly defined in the judgment that amendments to the Constitution should be done in such a way that there is no harm to democracy, judiciary, independence, devolution of powers, secularism etc.

Indus Water Treaty

Context :

- Indus Water Treaty (IWT) seems to be struggling to gain support in the J&K region.

Background :

THE INDUS RIVER SYSTEM: HOW THE WATERS FLOW

EASTERN RIVERS	WESTERN RIVERS	TOTAL AREA OF INDUS BASIN:
Sutlej, Beas, Ravi	Indus, Jhleum, Chenab	11.65 lakh sq km
11 cubic km	232.5 cubic km	47% in Pakistan
Annual flow before entering Pakistan.	Annual flow before entering Pakistan.	39% in India,
India has full rights on all waters. Pakistan can use whatever flows into its territory.	India can use only about 62.2 cubic km; 170.3 cubic km reserved for Pakistan.	8% in China, 6% in Afghanistan.
		Source: India Water Resources Information system

- One of the few instances of a significant international river basin conflict being resolved in South Asia is the IWT, signed by India and Pakistan in 1960.

- However, the J&K region's residents claim that the treaty prevents them from utilising their own water resources, significantly impacting the UT's growth.

- This indicates the widespread resentment among the residents over the existence of IWT.

Reasons for resentment :

- It is due to the perception that the treaty has resulted in a loss of water resources, which has had a detrimental impact on the UT's potential for —

Agriculture

- Jammu and Kashmir's economy is mainly dependent on agriculture. Nearly 70% of the people here depend on agriculture for their income, directly or indirectly.

- The UT's irrigation system has merely improved over the years. In Kashmir, the primary irrigation method (canal) has seen a dismal development.

Power generation

- The region's hydropower potential, which will give its economy a powerful boost, is not fully realised.

- Of the potential hydropower capacity (20,000 MW), only 3,263.46 MW/19.80% have been used so far.

- IWT only allows for run-of-the-river projects that do not affect the riparian rights of Pakistan.

What residents want and the steps taken :

- Abrogation of the treaty.

- Quantify the losses incurred to aid the UT in seeking compensation.

- Consequently, the government started the process of quantifying the losses.

Conclusion :

- As the issue of IWT is again in the spotlight due to India's appeal to Pakistan to modify it, the people of J& eagerly expect policymakers to pay attention to their concerns.

Odisha PVTG Nutritional Improvement Programme (OPNIP)

- OPNIP is a programme to improve the nutritional status of the Particularly Vulnerable Tribal Groups (PVTGs) in Odisha.

Interventions :

- Community-based creches for children of age 6 months to 3 years

- Spot feeding centres for children aged 3-6 years

- Maternal spot feeding centres for pregnant & lactating mothers
- Prioritized the first 1,000 days of life when rapid growth and development take place

Community support :

- Local PVTG self-help groups are entrusted with managing the OPNIP interventions, which strengthens community ownership and empowers local PVTG women's collectives in managing such nutrition interventions in their community.

Usage :

- The scheme can be used to highlight successful interventions for improving the health and nutrition among the PVTGs in India

Nagaland Government Repeal its Municipal Act

Context :

- The Nagaland government, repealed the Nagaland Municipal Act of 2001, which included 33% reservation for women in urban local bodies, in the face of opposition from community based organizations.

Background of the Issue :

- Nagaland is the only state in India where seats in Urban Local Bodies (ULBs) are not reserved for women, as mandated by the 74th Amendment to the Constitution.
- The State government amended the 2001 Municipal Act in 2006 to include 33% reservation for women, but this move faced strong opposition, leading to the indefinite postponement of ULB polls in 2009.
- Recently, the Supreme Court pressurized the Nagaland government to hold ULB polls, but now the government has repealed the Municipal Act 2001.

Reasons for repealing the Nagaland Municipal Act :

Reasons	Examples
Opposition from traditional tribal organizations	Several traditional tribal organizations opposed the 33% reservation of seats for women as they argue that such reservation would violate the special provisions granted by Article 371A of the Constitution to Nagaland.
Violation of customary laws	The apex tribal bodies (hohos) in Nagaland have argued that women have traditionally not been part of decision-making bodies and that reservation of seats for women would violate customary laws.
Political pressure and public sentiment	The Nagaland government succumbed to political pressure and public sentiment against the reservation of seats for women in ULBs.

Consequences of repealing the Nagaland Municipal Act :

Consequence	Description
Loss of representation for women	Without the Municipal Act, there is no legal provision for reserving seats for women in urban local bodies.
Potential violation of constitutional provisions	The repeal of the Municipal Act could be seen as a violation of the 74th Amendment to the Indian Constitution, which mandates the reservation of seats for women in urban local bodies.
Delay in holding local body elections	It could result in further delays in holding local body elections, which were already postponed several times due to opposition from certain groups.
Loss of credibility for the government	The repeal of the Municipal Act after an undertaking was given to the Supreme Court could erode the credibility of the Nagaland government and its commitment to upholding the rule of law.
Ethical concerns	Gender Equality, Discrimination, Lack of Accountability, and violation of promises

Demands of the Tribal Organizations :

- A "guarantee" that the 33% quota would not violate the provisions of Article 371A.
- The duration of the reservation should be capped at two tenures
- The post of chairperson should not be reserved for women.

About Article 371A :

- Article 371A of the Indian Constitution is a special provision made for the state of Nagaland, to provide special safeguards for the protection of the unique social and cultural practices, customs and traditions of the Naga people, who have a distinct identity and history.

Major Provisions	Description
Governor's special responsibility	The Governor of Nagaland has a special responsibility to ensure law and order and the administration of justice. The Governor must be consulted on all matters concerning the appointment of civil servants and selection of candidates for admission to educational institutions in Nagaland.
State legislature power	The state legislature of Nagaland has the power to enact laws relating to the ownership and transfer of land and its resources, customary law and practice of the Naga tribes.
Restrictions on Parliament	Parliament of India is prohibited from enacting any law that affects the religious or social practices of the Naga people, their customary law and procedures, or ownership and transfer of land and its resources in Nagaland.

Green Deposits

- Reserve Bank of India issued detailed guidelines for acceptance of 'green deposits' by banks and NBFCs.

Framework for 'Green Deposits' :

	Information
Definition of Green Deposit	Interest-bearing deposits are offered by banks and NBFCs for a fixed period, with proceeds used to promote sustainable investments in environmentally-friendly sectors
Eligibility	All scheduled commercial banks including small finance banks (excluding RRBs, LABs, and payment banks) and all deposit-taking NBFCs registered with RBI, including HFCs
Denomination	Indian Rupees only
Sectors	Renewable Energy, Energy Efficiency, Clean Transportation, Climate Change Adaptation, Sustainable Water and Waste Management, Green Buildings, etc.
Exclusions	Projects involving new or existing extraction, production and distribution of fossil fuels; Nuclear power generation; Direct waste incineration; Landfill projects; Hydropower plants larger than 25 MW, etc.
Monitoring	Green deposit funds are subject to independent third-party verification on an annual basis.

The State of the World's Children 2023

Context :

- UNICEF released its global flagship report 'The State of the World's Children 2023: For Every Child, Vaccination,' highlighting the significance of childhood immunization.

What is Immunization?

- Immunization, also known as vaccination, is the process of protecting an individual or a population from disease by introducing a substance that stimulates the body's immune system to recognize and fight the disease-causing agent, such as a virus or bacteria.

The major findings of the report are :

Finding	Example
The decline in vaccine confidence globally	Over a third of the 55 countries studied for vaccine confidence showed a decline.
The largest decline in childhood immunization in 30 years	A total of 67 million children missed out on vaccinations between 2019 and 2021. In 2022, the number of measles cases was more than double the total in the previous year.

Existing inequities in vaccination access	Unvaccinated children often live in hard-to-reach communities such as rural areas or urban slums.
The growing threat of Vaccine Hesitancy	There is a growing threat of vaccine hesitancy due to factors such as access to misleading information and declining trust in vaccine efficacy.

India-specific findings :

Decrease in the number of zero-dose children during the pandemic	Between 2020 and 2021, the number of zero-dose children in India decreased from 3 million to 2.7 million. However, India was among the top 20 countries with the largest numbers of zero-dose children
Improvement in the 'Importance Given to Vaccines'	98% of the population in India currently perceive vaccines as important for children

Recommendations :

Emphasizes sustained evidence-based catch-up campaigns	India was able to bring down the number of zero-dose children due to sustained evidence-based catch-up campaigns (e.g., Intensified Mission Indradhanush (IMI), ASHA workers, routine immunization)
Accelerating the implementation	Increase the implementation of Immunization Agenda 2030 and Gavi Strategy 5.0 to promote equity and sustainably scale up immunization coverage.
Strengthen demand for vaccination	Demand for vaccination can be strengthened by talking to communities, tackling gender barriers, and rethinking accountability in health systems.
Importance of investing in primary healthcare	Spending more on immunization and health by investing in primary health care at the national level can help promote sustainable and equitable vaccine coverage.
Need to build resilient systems	E.g., India's digital health platform TeCHO+ (Technology Enabled Community Health Operations) and electronic vaccine intelligence network (eVIN) increased vaccination coverage while enhancing data entry efficiency

Conclusion :

- Reaching the last child with immunization is a key marker of equity that benefits not only the child but also the whole community. Routine immunizations and strong health systems can best prepare us in preventing future pandemics and reducing morbidity and mortality.

Kerala Adopts Water Budget

Context :

- Kerala became the first state to adopt a water budget, as a solution to water scarcity during summer months to ensure equitable water distribution.

What is Water Budget?

- A water budget is a tool used to manage water resources by estimating the total amount of water available in a region and the amount of water used by different sectors.

Benefits :

- It helps in making informed decisions about water use

- Identifying areas of water scarcity

- Developing strategies for equitable water distribution.

- Create awareness about proper water use and avoiding wastage.

Other initiatives of the Kerala government :

- It has revived over 15,000 kilometres of waterways in the last few years, and local bodies are rejuvenating more ponds and streams.

Usage :

- This can be used as an example in Governance, and Agriculture questions on water management.

Gandhamardan Hills Biodiversity Heritage Site- Odisha

- The Odisha government has declared the Gandhamardan Hill Range in Bargarh and Balangir district as a Biodiversity Heritage Site (BHS).

- This is the third BHS of Odisha after Mandasuru Gorge in Kandhamal district and Mahendragiri Hill Range in Gajapati district.

- One angiosperm, Ficusconccinavardasycarpa and one spider, Peucetiaharishankarensis, are endemic to this hill.

- Two historical monuments such as the Nrusinghanath Temple is located on the northern slope and Harishankar Temple is situated on the southern slope of the foot hills

Location of Gandhamardan hills range
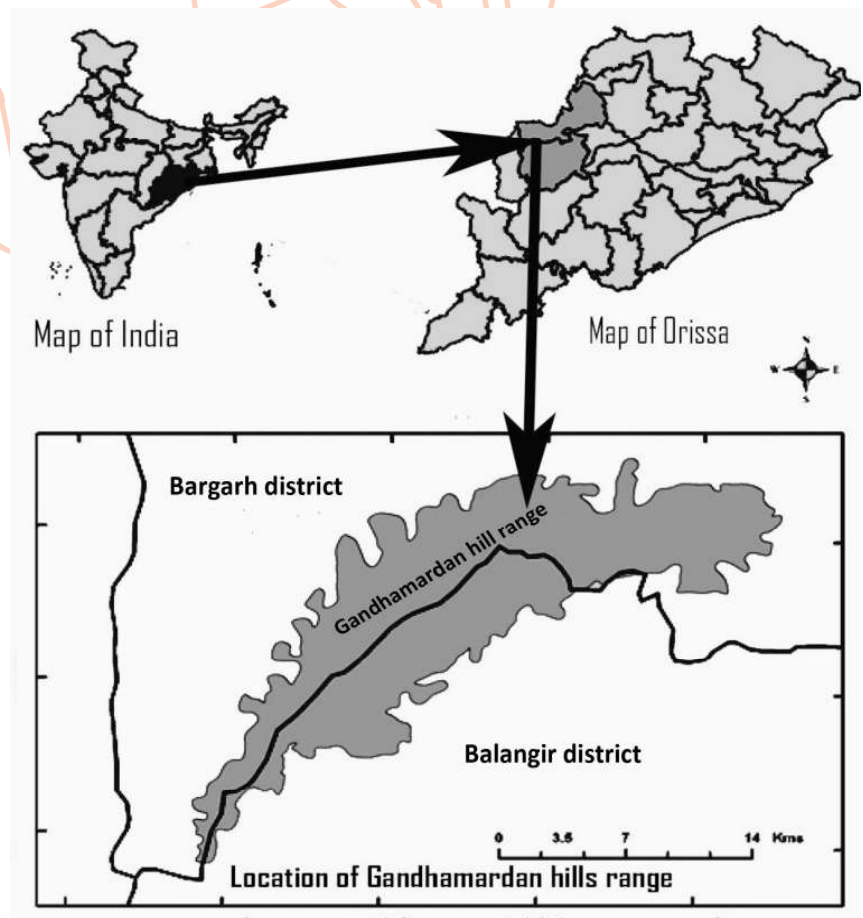
First Water Budget

- Kerala became the first state to adopt a water budget.
- It came up with a solution to water scarcity in certain regions there.
- The water budget would be helpful in properly utilising the resource and preventing wastage.
- The first phase of the project would cover 94-gram panchayats and 15 block panchayats.
- Specific recommendations have been provided to each panchayat as part of the Water Budget.

The Tamil Nadu Urban Local Bodies Rules – 2023

- The Tamil Nadu government has released new rules for urban local bodies.
- In Tamil Nadu, Municipal Corporations, Municipalities and Municipal Corporations are divided into 4 categories. o Municipalities with a population of more than 10 lakhs are classified as Special Level Corporations, o Between 5 and 10 lakhs as Selection Level Corporations, o Between 3 and 5 lakhs as First Level Corporations and o With a population of up to 3 lakhs as Level 2 Municipal Corporations.

- Divisions based on income are: o Income above 15 croresare classified as special level municipalities. o Income between 9 crores and 15 crores are classified as examination level municipalities. o Income between 9 crores and 6 crores are classified as first level municipalities. o Income below 6 crores are classified as second level municipalities.
- Also, the number of councilors is to be selected in the Corporation, Municipalities and Boroughs on the basis of population.

- Number of councillors based on population: o 230 councilors in a corporation with a population of more than 80 lakhs. o Municipal Corporations with a population of 60 to 80 lakh may have 200 councillors. o Municipalities with a population of more than 2.25 lakh may have 52 councillors. o Municipalities with a population of less than 30,000 may have 22 councillors. o Municipalities with a population of more than 25,000 may have 21 councillors. o Municipalities with a population of 10,000 to 15,000 may have up to 12 councillors

Currently, Right to Health in Rajasthan

- Rajasthan state as a model state in health sector providing free treatment up to Rs 25 lakh under Chiranjeevi Swasthya Bhima Yojana to villages & hamlets, free medicine & checkup scheme, Nirogi Rajasthan Abhiyan & due to excellent management during Corona

- At present the law guarantees the right to health to all people in the state.
- This progressive law guarantees the right to health under Article 47 & Article 21 of the Constitution of India.
- The Chief Minister of Rajasthan Ashok Gehlot said that the right to health of the people across

the country is expected to be available on World Health Day.

Action plans for good health

- Chief Minister Chiranjeevi Swasthya Bhima Yojana
- Free health insurance for Rs 25 lakhs
- Along with the insurance is Rs 10 lakh accident cover.

- Chief Minister Nishulk Nirogi Rajasthan Yojana
- Free medical (in all government clinics)
- Rajasthan State Health Scheme
- Cashless medical facility for all individual & pensioners

Highlights of the Bill for Health

- Undertaking Inpatient, Outpatient, Consultation, Medication, Test, Transport Procedure & Emergency Care in Government & Designated Private Hospitals.
- The government reimburses patients treated in the emergency department in situations where they cannot afford to pay
- Treatment will be provided in a non-police report environment
- Right to full information regarding treatment

- It is the right where the drug should be taken and tested
- Right to get medical advice from hospital and doctors
- The Act has a grievance redressal mechanism
- There is a huge provision of funding for private hospitals with timely automatic approval.
- Right to go to civil courts against decisions of authorities
- All government and designated private hospitals are covered under this Act
- The number of designated hospitals will be increased in a phased manner
- Additional facilities are proposed for designated private hospitals under the Act

Conclusion

- Medical professionals and doctors play an important role in the effective implementation of the right to health
- So their dignity is protected under this Act
- It is everyone's duty
- Rajasthan Medical Service Personnel & Medical Service Institutions (Prevention of Violence & Destruction of Property)
- The Practitioners Safety & Standard Operating Procedure Act 2008 was published on 29th May, 2022.

The Number of Councilors can be Increased to 230

- Municipalities are divided on the basis of population.
- Accordingly, Municipal Corporations are divided into 4 categories
- Special Level Corporation - Population of more than 10 lakhs
- Selection Level Corporation - population of 5 to 10 lakhs
- First Level Corporation - population of 3 to 5 lakhs
- Level 2 Municipal Corporation - population of up to 3 lakhs

- Tamil Nadu has 21 Municipal corporation, 139 Municipalities and 490 Town panchayat. According to the new rules for urban local bodies, the municipalities are divided on the basis of population

Municipality

- As far as municipalities are concerned, they are classified on the basis of revenue
- More than Rs 15 crore - special status

- Rs 9 Crore - 15 Crore - Selection Level
- Rs 6 Crore - 9 Crore - First Level
- Less than Rs 6 crore - Secondary level
- Town Panchayats
- More than Rs 2 crore - Special level
- Rs 1 crore to Rs 2 crore - Selection level
- Rs 50 lakh - Rs 1 crore - First level
- less than Rs 50 lakh - secondary level

- Corporations with a population of more than 80 lakhs may have up to 230 councillors

Municipal Corporation & Number of Councilors

- Population 60 to 80 lakhs - 200
- 50 to 60 lakhs - 180 councilors
- For a minimum of 3 lakhs - 48 councilors

- Likewise in Municipalities, 52 councilors if the population is more than 2.25 lakh
- 51 councilors if the population is between 2 to 2.25 lakh
- 48, if the population is between 1.75 lakh to 2 lakh
- 22 councilors for a minimum of 30,000 population

For Town Panchayats

- 21 councilors if the population is more than 25,000
- For a population of 20,000 to 25,000 - 18 councilors
- For a population of 15,000 to 20,000 - 15 councilors
- For a population of 10,000 to 15,000 - 12 councilors

VIII. Geography – Geographical Marks

Eravikulam National Park gets a Fernarium

Context :

- Eravikulam National Park (ENP), the natural habitat of Nilgiritahr in Munnar, has a new attraction a Fernarium set up inside the park.

Fernarium :

- A fernarium is a type of botanical garden or greenhouse that specializes in cultivating and displaying various species of ferns.
- Ferns are part of the Epiphytic family. They grow naturally in a soilless condition. The plants obtain water and nutrients through leaching from trees.
- Ferns are a diverse group of plants that do not produce flowers or seeds but instead reproduce through spores.

About Eravikulam National Park :

- Declared a Sanctuary in 1975 and later a National Park (1978) with the intention of protecting the indigenous population of

Nilgiri Tahr (highly endangered mountain goat).

- "Neelakurinji", the flower that blooms once in twelve years grows here.
- The highest peak south of the Himalayas - the Anamudi is located here.

El Nino and Monsoon

Context :

- According to the India Meteorological Department (IMD), there is nearly a 70% probability of an El Nino developing this monsoon.

Understanding La Nina and El Nino :

Normal climatic conditions	Weather depends a lot on sea surface temperature (SST) → warm ocean → more clouds form → more rain falls
	In the Pacific Ocean, near the equator → warm water on the surface → Normally, a low-pressure system forms in northern Australia and Indonesia and a high-pressure system develops off the Peru coast
	Trade winds → blow strongly from east to west → convective storms/thunderstorms over Indonesia and coastal Australia

El Nino and La Nina are two opposing climate trends that deviate from the normal conditions	
El Nino	**La Nina**
It is typically known as the warm phase of ENSO - a band of warmer water spreading from west to east in the equatorial Pacific Ocean → brings rainfall in the central and eastern Pacific, and droughts in Australia, and Asia. El Nino is more frequent than La Nina	La Nina is identified as the cold phase – a band of cooler water spreads east-west → effects on climate (opposite of El Nino)
These are together referred to as the El Nino-Southern Oscillation (ENSO) cycle. These events occur every 2-7 years on average & have global effects on weather, wildfires, ecosystems and economics	

Re-emerges of Zealandia

- After 375 years of speculation and exploration, scientists have finally confirmed the existence of a "missing" continent known as Zealandia.

- This continent is approximately 1.89 million square miles in size.

- It was once part of an ancient supercontinent called Gondwana.

- It included Western Antarctica and Eastern Australia over 500 million years ago.

- Zealandia began to "pull away" from Gondwana roughly 105 million years ago.

- The existence of Zealandia was first recorded in 1642.

- The vast majority of this "new" continent is located underwater, lying beneath 6,560 feet (2km) of water.

- Zealandia is now recognized as the world's eighth continent.

Summary of the 2023 Southwest Monsoon Season Rainfall

- According to the IMD, the country as a whole is likely to receive 96% of the southwest monsoon from June to September and farmers need not worry about deficient rainfall.

- The monsoon is the lifeblood of the world's fifth-largest economy.

- Nearly half of the country's net-sown area lacks irrigation access, making the rain-bearing system vital → replenishing natural reservoirs → feeding power generation, factories and drinking supply.

Category	Rainfall Range (% of LPA)
Deficient	<90
Below Normal	90 - 95
Normal	96 - 104
Above Normal	105 - 110
Excess	>110

El Nino in India :

- In 1997, India faced the strongest El Nino ever, but the monsoon was normal.

- Between 2001 and 2020, India saw seven El Nino years → Of these, 4 resulted in droughts (2003, 2005, 2009-10, 2015-16).

- These years also saw kharif or summer-sown farm output (accounting for nearly half of the country's annual food supply) decline by 16%, 8%, 10% and 3%, leading to inflation.

- The 2023 El Nino is expected to develop following a triple dip La Nina event (2020-22).

Threats posed by El Nino :

- A slippage of one percentage point in monsoon rainfall will mean a below-normal monsoon.

- Drought drives up inflation, erodes farm incomes, reduces spending on consumer goods and hurts the overall economy.

Good news for India :

- A currently positive Indian Ocean Dipole (IOD) – temperature difference between two spots (western and eastern) in the Indian Ocean – boosts the rains and thwarts an El Nino. IOD is the.

- Droughts are no longer the disaster they used to be, thanks to a significant leap in farm productivity.
  - The country's food output has risen sharply from about 50 million tonnes in 1950-51 to 323.5 million tonnes during 2022-23.

- This will help avoid a scary "Malthusian world" of food production not keeping pace with population growth.

Additional steps needed to protect farmers :

- Setting up a system for specific advisory services and forecasts for all the districts based on different rainfall scenarios.

IX. Environment
Impact of Antarctic Ice Melting on Ocean Currents

Context :

- According to a new study, an alarming effect on the global temperature, the marine food chain and the stability of ice shelves is being caused by the Antarctic ice sheet's rapid melting.

Background :

- Ocean currents are the continuous, predictable, directional movement of seawater driven by gravity, wind (Coriolis Effect), and water density.

- These overturning circulation/currents, driven by the movement of denser water towards the sea floor, helps deliver heat, carbon, oxygen and vital nutrients (rise up from the bottom) around the globe.

- They have been relatively stable for thousands of years, but they are now being disrupted by the warming climate.

Findings of the study :

- With temperatures rising → freshwater from Antarctica's melting ice enters the ocean → reducing the salinity and density of the surface water → diminishing downward flow to the sea's bottom.

- Deepwater circulation in the Antarctic could weaken (by 40% by 2050) at twice the rate of decline in the North Atlantic.

Melting polar ice is weakening ocean currents
Meltwater makes seawater less salty, and therefore lighter and slower to sink
Marine species are moving deeper and towards the poles to escape rising temperatures
Source: NASA
The great ocean conveyor belt

The effect of meltwater on global ocean circulation :

- Disrupts the base of the food chain : As the Southern Ocean supports about three-quarters of global phytoplankton production $\rightarrow$ impacts the marine ecosystem.

- Leaving more CO2 in the atmosphere: The ocean would not be able to absorb as much CO2 as its upper layers become more stratified.

Tiger Census 2022 and International Big Cat Alliance

Context :

- The fifth cycle of the All-India Tiger Estimation (2022) was released to mark 50 years of Project Tiger

Major highlights of the Report :

Highlights	Details
Tiger population in India	3,167 in 2022, up from 2,967 in 2018 (growth by 200)
Growth rate	About 6.7% (from 2018 to 2022) - significantly slower than the 33% growth rate during 2014-2018.
Significant increase	Shivalik Hills and Gangetic Plains saw a significant increase in the tiger population
New areas	Uttar Pradesh's Suhelwa Wildlife Sanctuary and northwest of Yamuna in Himachal Pradesh.
Decline in occupancy	Tiger occupancy in the Western Ghats declined, with significant declines observed in the Wayanadlandscape and in the Biligiriranga Hills Tiger occupancy in Northeast Hills, Jharkhand, Odisha, Chhattisgarh, and Telangana showed a decline.
High conservation priority	The genetically unique and small population of tigers in Simlipal is of high conservation priority.
Best maintained TR	Periyar Tiger Reserve (TR), Kerala is the best-maintained of all TRs followed by Satpura TR (Madhya Pradesh), Bandipur and Nagarhole (Karnataka)
Largest tiger population	The Nilgiri cluster (Nagarahole to Biligiriranga Hills) is the largest tiger population in the world.

About Tiger Census 2022

- Period : Once every four years (2006, 2010, 2014, 2018)

- Conducted by : The National Tiger Conservation Authority (NTCA) conducts tiger censuses in partnership with state forest departments, conservation NGOs, and the Wildlife Institute of India (WII).

- Census methodology :

  ○ The double sampling method (introduced in 2006, after the pugmark surveys were found to be unreliable) is used in the national tiger census, which involves ground-based surveys and camera-trap images.

- Phases 1 & 2 collected signs of tiger presence, such as scat and pugmarks.
- Phase 3: the information was plotted on a forest map prepared with remote sensing and GIS. In the last phase, the data were extrapolated to areas where cameras could not be deployed.

30 years of Project Elephant

Context :

- President DroupadiMurmu took part in GajUtsav at Kaziranga National Park and Tiger Reserve (KNPTR) in Assam to mark 30 years of Project Elephant.

Aspect Project Elephant	Information
Launch year	1992
Type	Centrally-sponsored scheme
Aim	To protect elephants and improve their habitat and corridors, reduce human-elephant conflict
Elephant reserves	33 elephant reserves have been notified (Terai ER in Utter Pradesh became 33rd India's ER); 101 elephant corridors identified
Objectives	Provide financial and technical support to wildlife management efforts, ensure the long-term survival
	Protect elephants, their habitats and migration corridors
	Support research on ecology and management of elephants
	Create awareness of conservation among local people
	Provide improved veterinary care for captive elephants

Other steps taken are :

- GajYatra (a nationwide awareness campaign to protect elephants)
- Monitoring the Illegal Killing of Elephants (MIKE) program (2003, to monitor the effectiveness of field conservation efforts)
- GajSoochna' mobile application for forest officials
- Upholding the right of passage of elephants by SC
- Involvement of mahouts and their families in the welfare of elephants
- GajUtsav
- Asian Elephant Alliance, an umbrella initiative by five NGOs, had, last year, come together to secure 96 out of the 101 existing corridors used by elephants across 12 States in India.

Status of Elephants in India :

- India has about 27,000 Asian Elephants, which is the world's largest population of the species.
- As per Elephant Census (2017), Karnataka has the highest number of elephants (6,049), followed by Assam (5,719) and Kerala (3,054)
- More than 60% of the world's elephant population is in India.
- The elephant is the Natural Heritage Animal of India

Characteristics of Elephants :

- They are highly intelligent with strong family bonds

- They have the longest gestation period of all mammals (18 to 22 months)
- Adult male Asian elephants are less social than females.
- The elephant makes a low, rumbling sound that can be heard up to 5 miles away.
- An elephant can carry up to 7 tons, making it one of the world's strongest animals.

Comparison table between Asian and African elephants :

Feature	African Elephant	Asian Elephant
Size	Larger, weighing between 4000-8000 kg	Smaller, weighing between 3000-6000 kg
Ears	Large fan-shaped ears	Smaller rounded ears
Skin Texture	Skin is more wrinkled	Comparatively smoother skin
Head Shape	Single dome shape	Twin domed head
Tusk Growth	Both male and female African elephants grow tusks	Only some male Asian elephants have tusks
Habitat	Savannahs and forests of Africa	Forests, grasslands, and scrublands of South-east Asia and South Asia
Trunk Tips	Have two finger-like tips on the trunk	Have only one finger-like tip on the trunk
Social Behavior	Tend to live in larger herds	Tend to live in smaller family groups
Lifespan	70 years	48 years

Climate Justice

- A group of 16 countries, led by Vanuatu, is seeking an advisory opinion from the International Court of Justice (ICJ) on "What are the legal consequences for states that have caused significant harm to the climate system and vulnerable states".

- Also, The Commission of Small Island States on Climate Change and International Law has also sought the advisory opinion of the International Tribunal for the Law of the Sea (ITLOS) on the specific obligations of countries about preventing, controlling, and reducing pollution of the marine environment.

- Climate justice is a concept that addresses the just division, fair sharing, and equitable distribution of the burdens of climate change and its mitigation and responsibilities to deal with climate change

Usage :

- These examples can be used as an effort for Climate Justice esp. for small Island states and vulnerable countries.

Prime Minister Addressed the 5th International Conference on Disaster Resilient Infrastructure (ICDRI)

- ICDRI is an annual international conference by the Coalition for Disaster Resilient Infrastructure (CDRI) Disaster resilient infrastructure include vital buildings, public communal facilities, transit systems, telecommunications, and power systems that are strategically designed to withstand the impact of a natural disaster like a flood, earthquake, or wildfire.

- Significance It could bring down the economic cost of rebuilding the whole infrastructure after natural disasters.

- Assist in achieving targets pertaining to a reduction in mortality due to disasters.

- Help in non-disruption of Energy, transportation, and telecommunications for an effective post-disaster response.

- The frequency and severity of disaster events have been increasing which makes DRI inevitable e.g., Turkey Earthquake.

- Initiatives India announced the creation of a CDRI after the Asian Ministerial Conference on Disaster Risk Reduction (2016).

- Sendai Framework for Disaster Risk Reduction (2015-2030) identifies investing in Disaster Risk Reduction (DRR) for resilience and to "build back better" in reconstruction as priorities Infrastructure Resilience Accelerator Fund was announced in 2023acts as a financial resource and is key to the success of initiatives. Inclusion of the CDRI in working groups of G20.

U.N. Water Conference

Context :

- Recently, The United Nations 2023 Water Conference was held in New York (the first such meeting on water after 46 years). Also, a mid-term review of the UN Decade for Action on Water and Sanitation (2018-2028) was held at the conference.

About the Conference :

UN 2023 Water Conference	Description
Theme	"Our watershed moment: uniting the world for water"
Aim	Support the achievement of internationally agreed water-related goals and targets, including those contained in the 2030 Agenda for Sustainable Development
Location	UN Headquarters in New York
Hosts	USA, Tajikistan, and the Netherlands
Background	This is 2nd such water conference the first being held in 1977 in Mar de Plata, Argentina
World Water Day	22 March 2023, with the theme "Accelerating change"
SDG no. 6 for water	Ensure availability and sustainable management of water and sanitation for all

Successful Outcomes of the Last Conference (Mar de Plata)	• It resulted in the first global 'Action Plan' recognizing that "all peoples have the right to have access to drinking water in quantities and of a quality equal to their basic needs." • It led to global funding and a concerted effort to provide drinking water and sanitation for all. • These actions substantially reduced the population without access to safe drinking water in much of the developing world.

Outcome of the Water Conference :

• The Water Action Agenda contains over 700 voluntary commitments. Some of them have been given here with examples

Outcomes	Examples
India	$50-billion commitment to improving rural drinking water services under its JalJeevan Mission.
Technology	IBM Sustainability Accelerator focused on water management
Data and models	World Meteorological Organisation's Hydrological Status and Outlook System, offered data analysis tools.
Knowledge sharing	W12+ Blueprint, a UNESCO platform that hosts city profiles and case studies of programs (for cross cities learning)
Capacity building	• Making Rights Real initiative offered to help marginalised communities and women understand how to exercise their rights. • 'Water for Women Fund' offered support mechanisms for more effective and sustainable water, sanitation, and hygiene outcomes for women.
Civil society	It pledged to create transnational networks to advocate for criminalizing the use of certain pesticides harmful to aquatic life.
Environmental, social, and corporate governance	Farmers aren't becoming more efficient or going pesticide-free unless consumers are willing to pay a premium for more sustainably produced goods.
Private Sector	World Benchmarking Alliance has pledged to assess 1,000 global companies across 22 industries on their impact towards achieving water-related goals every two years.
NGOs	World Vision is committed to raising and investing $2 billion by 2030 to extend the impact of transformative water, sanitation, and hygiene (WASH) services work across 50 countries in six regions.

Issues with these commitments :

• They are non-binding in nature.

• The water action agenda did not include the local communities for water management.

• The conference failed to address the violence and threats faced by communities trying to protect dwindling water sources.

India Celebrates 50 Successful Years of "Project Tiger"

Context :

- The Indian government will officially mark the 50th year of 'Project Tiger' on 9 April with a three-day event in Mysuru, Karnataka.

Background :

- Project Tiger-an initiative to save tigers, was first initiated in the year April 1, 1973 in Jim Corbett National Park, Uttarakhand.

About Project Tiger :

Feature	Description
Objective	- To ensure the maintenance of a viable population of tigers in India for scientific, economic, aesthetic, cultural and ecological values. - To preserve, for all times, areas of biological importance as a national heritage for the benefit, education and enjoyment of the people.
Type	Centrally Sponsered Scheme under the Ministry of Environment, Forests and Climate Change (MoEFCC)
Implementing Authority	National Tiger Conservation Authority (NTCA) (est. 2005; HQ: New Delhi)
About NTCA	NTCA was established following a recommendation of the Tiger Task Force). It is a statutory body under the Wildlife (Protection) Act, of 1972.
Members of NTCA	Union Minister of the MoEFCC (as Chairperson)+ the Minister of State in the MoEFCC (as Vice-Chairperson)+ 3 MPs, Secretary, MoEFCC
Functions of NTCA	Supervisory and coordination role and approval of the Tiger Conservation Plan prepared by the State Governments.
States Covered	18 States in India with 54 Tiger Reserves (Guru Ghasidas National Park and the TamorPingla Wildlife Sanctuary in Chhattisgarh being the latest)

Achievements of Project Tiger

Achievement	Description
Increased population	The number of tigers in India has increased from 1827 (the 1970s) to around 2967, with a 30% rise in the population in the last eight years.
Increased coverage	9 tiger reserves covering 18,278 sq km in 9 states (the 1970s) to currently, 54 tiger reserves spread over more than 75,000 sq km in 18 tiger range states.
TX2 (goal of doubling wild tiger population by 2022)	India met its goal in 2018 (four years ahead of its target) (St. Petersburg Declaration on tiger conservation)

Protection of other animals	As hunting was banned to save tigers, the population of many other animals started increasing.
Global tiger population	With a current population of about 3,000 tigers, India is home to more than 70% of the global tiger population.

Challenges faced by project tiger :

- Poaching : Project Tiger's efforts were mainly hampered by poaching, also by the debacles and irregularities in Sariska and Namdapha.
  - As per NTCA, 1059 tiger deaths were in the last 10 years, most in Madhya Pradesh
- Conflict with FRA, 2006: The Forest Rights Act passed by the Indian government in 2006 recognizes the rights of some forest-dwelling communities in forest areas.

- Lack of adequate protection in the outside tiger reserve.
  - According to a report, nearly 29 per cent of tigers lives outside of the core zone
- Man-Animal Conflicts Wildlife habitats are shrinking leading to more instances of human-animal conflict.
  - From 2001 to 2016, 1,065 cases of human-tiger conflict were recorded including injuries and even fatalities on both sides.

Conclusion

- The tiger is a unique animal which plays a pivotal role in the health and diversity of an ecosystem. However, there is a need for further community involvement through a tiger reserve that is not built with fences and armed patrol guards, but around a cultural model of conservation i.e. including local tribes like Idu Mishmi in Arunachal Pradesh, who consider Tigers as their elder brother and sacred.

Rising Sea Levels and their Disastrous Consequences

Context :

- As per the WMO's 'State of the Global Climate 2022' report, the world's sea level is rising at an unprecedented rate.

Rising sea levels :

- The rate of global mean sea-level [GSML] rise has doubled from 2.27 mm/year in 1993-2002 to 4.62 mm/year in 2013-2022.

GSML budget (individual contribution of these factors) :

- Loss of glaciers and ice sheets contributed 36% to the GSML rise (between 2005-2019), Ocean warming (55%), and changes in the storage of land water (less than 10%).

Causes :

- Ocean warming (increasing concentrations of CO_2 and other GHGs drive global warming, 90% of the extra heat is stored in the oceans),

- Ice loss from glaciers and ice sheets. Earth's ice cover/cryosphere includes the
  - Arctic and Antarctic regions (called sea ice),
  - Glaciers,
  - Ice sheets of Greenland and Antarctica,
  - Seasonal snow cover, and
  - Permafrost (mass of land that remains below 0°C for at least two straight years).

Effects :

- It will cause changes in land cover-seas swallowing more of the land cover.
- The chances of weather formations like cyclones could increase.
- Changes in land water storage → more seawater could seep into the ground → Groundwater (usually freshwater) turning saline.
- Water crises in coastal areas → impacting agriculture in adjacent regions → displacement of hundreds of thousands of people → increasing social disparities and economic liabilities of governments.

Most vulnerable :

- Coastal communities particularly in tropical countries like India and South Africa, which have high population densities.

Case study (Impact of sea-level rise on societies) :

- The Sunderban Delta in West Bengal is the world's largest mangrove area.
- The lives of coastal communities, including their economic activities, are tied intricately with the coastal ecosystem.

- Rising sea levels and coastal erosion has left more islands submerged under water, endangering socio-economic stability and has forced local communities to migrate.
- A combination of these forces has increased child trafficking in the Sundarbans.

Way ahead :

- More reports are required to generate and accumulate data on climate change.
- These reports should also press for global and local policy-level changes related to climate change.

Radioactive Contamination

Context :

- The International Atomic Energy Agency (IAEA) has released its annual report on the illicit trafficking of nuclear and other radioactive material (part of the Incident and Trafficking Database), stating that radioactive materials and contaminated devices are entering into the scraps recycling chain, posing a severe health hazard.

What is Radioactive contamination?

- Radioactive contamination occurs when radioactive substances, such as particles or radiation, are deposited onto surfaces, objects, or people. E.g., Radioactive-laced waste products are often found while scrapping ships.

Sources of Radioactive contamination :

Sources of Radioactive Contamination	Examples	Type of Radioactive Substance
Natural Sources	Radon gas	Radon-222
	Uranium in soil and rocks	Uranium-238, Uranium-235, Thorium-232
Medical Applications	Nuclear medicine procedures	Iodine-131, Technetium-99m, Cobalt-60
	Radiation therapy	Cesium-137, Iridium-192

Industrial Applications	Nuclear power plants	Uranium-235, Plutonium-239, Cesium-137
	Radiography testing	Cobalt-60, Iridium-192
	Industrial gauges	Americium-241, Cesium-137, Cobalt-60
Accidents and Incidents	Chornobyl disaster	Iodine-131, Cesium-137, Strontium-90
	Fukushima nuclear disaster	Iodine-131, Cesium-134, Cesium-137
	Nuclear weapon testing	Strontium-90, Cesium-137
Illegal Activities	The illicit trafficking of radioactive materials	Various, including Plutonium-239, Cobalt-60, Cesium-137
	Radioactive waste dumping	Various, including Uranium-238, Plutonium-239, Cesium-137

Health impact of radioactive Contamination :

Health Impact	Examples
Radiation Sickness	Acute symptoms: nausea, vomiting, hair loss, skin burns, and in severe cases, death. Long-term effects: cancer, birth defects
Genetic Damage	Birth defects, mutations in offspring
Increased Risk of Cancer	Thyroid cancer after exposure to radioactive iodine, lung cancer after exposure to radon gas
Long-term Health Effects	Cataracts, cardiovascular disease, respiratory disease, neurological effects

The institutional mechanism in India against Radioactive Contamination :

- Atomic Energy Act, 1962: It provides a regulatory framework for all activities related to atomic energy and the use of ionizing radiation.
- Atomic Energy Regulatory Board to exercise regulatory and safety functions.
- Atomic Energy Rules, 2004 and 2012

Additional Information :

- Tests for Radioactive elements: Radioactivity in drinking water can be determined by a gross alpha test. Radioactivity is measured in Becquerel (SI unit) or in Curie. The unit Sievert measures the quantity of radiation absorbed by human tissues.

About IAEA :

- The International Atomic Energy Agency (HQ: Vienna, Austria; Est: 1957) is an intergovernmental organization that seeks to promote the peaceful use of nuclear energy and to inhibit its use for any military

purpose, including nuclear weapons. It was set up as the world's "Atoms for Peace" organization. India is a member.

About the Incident and Trafficking Database (ITDB) :

- ITDB (est. in 1995) to assist States on incidents involving illicit trafficking and maintain and analyze reported information to identify common threats, trends, and patterns. ITDB is part of the IAEA's Nuclear Security Plan that aims to Assist States in establishing, maintaining, and sustaining national nuclear security regimes.

Pollution in Ganga

Context :

- According to the Ministry of Jal Shakti, though the NamamiGangeProgramme has been able to reduce the overall pollution load in the Ganga River, the river still remains polluted.

NamamiGangeProgramme :

- It is an Integrated Conservation Mission, approved as a 'Flagship Programme' by the Union Government in 2014 with a budget outlay of Rs.20,000 Crore to accomplish the twin objectives of
  - ○ Effective abatement of pollution,
  - ○ Conservation and rejuvenation of National River Ganga.
- Since 2014, the Centre had taken up 409 projects with a budget outlay of Rs 32,912.40 crore to clean up the river.

Pollution in the Ganga River :

- At least 71% of the river's monitoring stations reported alarming levels of faecal coliform in January 2023.
- Faecal coliforms are a group of bacteria found in the gut and faeces of warm-blooded animals, which enters rivers through the discharge of untreated sewage.
- While Uttarakhand had permissible levels of faecal coliform [less than 2,500 most probable number (MPN) per 100 ml], numbers in three other states — UP, Bihar and West Bengal — are alarming.

Why does river Ganga still remain polluted?

- Untreated waste continues to be discharged in 60% of Ganga.
- While the five major states through which the river flows generated 10,139.3 million litres per day (MLD) of sewage, they had a combined sewage treatment capacity of only 40%.
- Uttarakhand is the only state with sufficient treatment capacity.

Wider challenges :

- Higher biochemical oxygen demand (BOD) at the majority of the stations.
  - ○ BOD is a measure of the oxygen required by aerobic microorganisms to biochemically oxidise organic matter. It affects the amount of dissolved oxygen in rivers.
  - ○ The higher the BOD, the lesser the oxygen available to aquatic life.
- Lax monitoring as the data collection and dissemination remains challenging.

Way ahead :

- Treating industrial and chemical waste: Sewage treatment plants (STPs) are going to be the mainstay of river cleaning.
- Waste to wealth: Identifying, developing and deploying technologies to treat waste to generate energy, recycle materials, and extract resources of value.

How AI can help the Environment

Context :

- Previously, we talked about the use of AI for Medicine. Here we will see AI applications for the environment.

Some examples of how AI can help the Environment :

Application	Description	Example
Deforestation monitoring	Deforestation and land use changes cause more than 10% of global greenhouse gas emissions. Using AI to monitor forest sounds and detect illegal logging	Non-profit organization the Rainforest Connection's "Guardian" devices, which attach acoustic monitoring sensors to trees to detect sounds associated with illegal logging
Carbon footprint reduction in the industry	Using AI to optimize industrial processes and reduce carbon emissions	Fero Labs' AI-driven optimization software, which reduces the amount of mined ingredients used in steel production
Energy efficiency in buildings	Using AI to optimize heating, ventilation, and air conditioning systems in buildings	Arup's Neuron app, which uses IoT sensors to gather data on building energy usage and optimize HVAC systems
Wildlife conservation	Using AI to monitor and protect endangered species	Rouxcel Technology's AI-enabled bracelets for rhinos, monitor their movements and alert authorities to potential threats
Smart agriculture	Using AI to optimize farming processes and reduce waste	John Deere's AI-powered system, which optimizes planting, irrigation, and fertilization for crops
Climate modelling	Using AI to make predictions about climate patterns and inform climate policy	The UK's Met Office, which uses AI to model climate patterns and inform government policy on climate change
Renewable energy management	Using AI to manage and optimize renewable energy sources	IBM's Watson Energy, which uses AI to optimize the performance of wind and solar energy systems

Challenges in the use of AI for the Environment :

Challenge	Example
Data quality and quantity	AI models require high-quality data to perform accurately, and the availability of large and diverse datasets can be limited
Bias in data and algorithms	For example, an AI system that recommends conservation areas to protect might not account for cultural significance or indigenous knowledge.

Interpretability	E.g., it may be challenging to understand how a deep learning model classifies satellite images to detect deforestation.
Scalability and deployment	E.g., deploying sensors to collect environmental data in remote locations or deploying drones to monitor wildlife may require significant investment.
Ethical considerations	E.g., the use of facial recognition technology to monitor endangered species could violate the privacy of individuals visiting conservation areas.

Conclusion :

- AI is a powerful tool that, when used appropriately, can help address some of the most pressing environmental challenges facing our planet. By leveraging the strengths of AI and addressing the challenges it presents, we can develop sustainable and innovative solutions for a better future.

All India Report of First Census of Water Bodies

Context :

- Ministry of Jal Shakti has launched the 1st Census of Water Bodies in convergence with the 6th Minor Irrigation (MI) Census under the Centrally Sponsored Scheme "Irrigation Census".

Background :

- Since water is a state subject under the 7th Schedule of the Indian Constitution, the relevant State Governments are primarily responsible for taking action.

- Through a number of schemes and programs, the Central Government offers technical and financial assistance to support their efforts.

- As an illustration, the PradhanMantriKrishiSinchayeeYojana (PMKSY)-HarKhet-KoPani (HKKP) scheme provides for the Repair, Renovation, and Restoration (RRR) of Water Bodies.

The First Census of Water Bodies

- Objective : To develop a national database for all water bodies by collecting information on their size, condition, status of encroachments, use, storage capacity, the status of filling up of storage, etc.

- What is unique about the census?

  o Until the 5th minor irrigation census, water body data was only available at the village level.

  o The first water body census included data on all types of water bodies in both rural and urban areas.

  o For the first time, data on the encroachment of water bodies was also gathered during the census.

- The census defines a water body as: All natural or man-made units bounded on all sides with some or no masonry work used for storing water for irrigation or other purposes (industrial, domestic or drinking, groundwater recharge, etc).

![SURESH' IAS ACADEMY]

Highlights of the first census :

STATES WITH MOST WATERBODIES

State	No. of waterbodies
West Bengal	7,47,480
Uttar Pradesh	2,45,087
Andhra Pradesh	1,90,777
Odisha	1,81,837
Assam	1,72,492
Jharkhand	1,07,598
Tamil Nadu	1,06,957

STATES/UTs WITH LEAST WATERBODIES		WATERBODIES LOST TO ENCROACHMENTS	
Sikkim	134	Uttar Pradesh	15,301
Chandigarh	188	Tamil Nadu	8,366
Delhi	893	Andhra Pradesh	3,920
Arunachal Pradesh	993		

No encroachment on waterbodies was reported from West Bengal, Sikkim, Arunachal Pradesh and Chandigarh   Source: Waterbody census
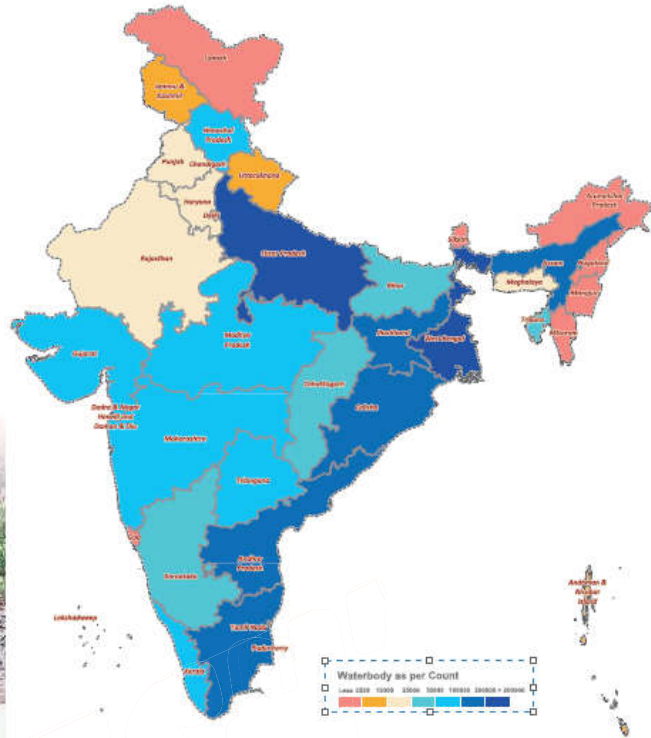
- 24,24,540 water bodies have been enumerated in the country, out of which 1% are in rural areas and only 2.9% in urban areas.

- West Bengal's South 24 Parganas has been ranked as the top district having the highest (55 lakh) number of water bodies across the country.

Classification of water bodies :

% Distribution of WBs by type

- Ponds — 59.5
- Tanks — 15.7
- Lakes — 0.9
- Reservoirs — 12.1
- Water Conservation Schemes/percolation tanks/check dams — 9.3
- Others — 2.5

% Distribution of WBs by ownership

- Public — 44.8
- Private — 55.2
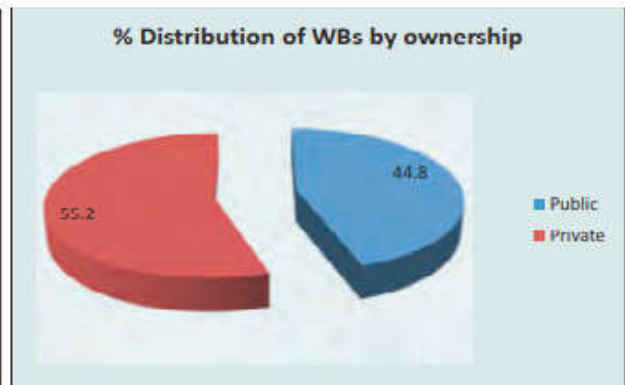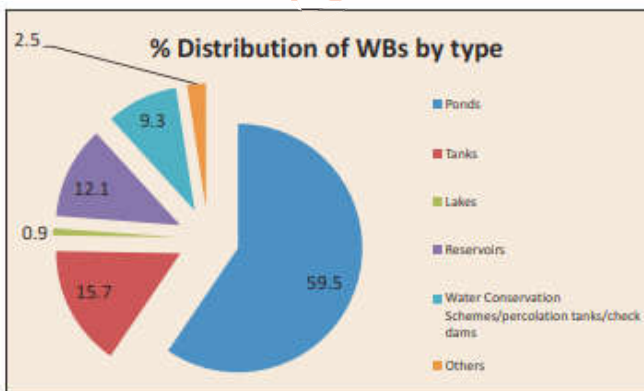
- West Bengal has the highest number of ponds and reservoirs, whereas Andhra Pradesh has the highest number of tanks.

- Tamil Nadu has the highest number of lakes and Maharashtra is the leading state with water conservation schemes.

Data on encroachment :

- 1.6% of water bodies are reported to be encroached, out of which 95.4% are in rural areas and the remaining 4.6% in urban areas.

Way ahead for Augmentation, Conservation and Efficient Management of Water Resources:

- Inclusion of water bodies in land records
- Making them an integral part of the town planning process
- Strict action against the encroachers

Eco-Sensitive Zones

Context :

- The Supreme Court of India has modified its earlier judgment that mandated a minimum one-kilometre eco-sensitive zone around protected forests, national parks, and wildlife sanctuaries across the country.

Changed Order :

Aspect	Previous 2022 Order	Changed Order
Minimum ESZ distance	1 km	ESZ cannot be uniform across the country and has to be "protected area-specific".
Applicability of order	Applied universally to all protected areas	Not applicable to ESZs for which draft and final notifications have been issued by MoEF&CC and in respect of proposals.
Mining allowed	Not specified, but implied to be allowed within ESZ	No mining is allowed, either within national parks and sanctuaries or in a 1 km radius.
Development activities	Not specified, but subject to restrictions	Any developmental activities undertaken within ESZs should follow the MoEF & CC 2011 guidelines and provisions of the 2022 Office Memorandum by MoEF & CC
Exception	Not specified	Where national parks and sanctuaries are located on inter-state borders or share common boundaries

Why SC changed its 2022 order?

- The earlier order had affected hundreds of villages in the peripheries of forests,
- The stringent observance of the judgment would hamper the development of basic infrastructure like schools, dispensaries, and roads, and affect eco-development activities around national parks and sanctuaries.
- The order would also impact certain projects of national and strategic importance such as the construction of national highways, railways, defence-related infrastructure, etc.

About Eco-sensitive zone :

	Definition
Eco-sensitive zone (ESZ)	An area around a protected area like a national park or wildlife sanctuary
Purpose	To conserve the biodiversity and ecosystems of protected areas by regulating human activities
Regulations	The government can regulate and restrict certain activities in ESZs through guidelines and laws
Activities	Activities that can be regulated include mining, construction, and tourism
Size	As per National Wildlife Action Plan (2002-2016), land within 10 km of the boundaries of national parks and wildlife sanctuaries is to be notified as ESZ. However, its size can vary depending on the location and specific needs of the protected area
Notification	ESZs are designated by the Ministry of Environment, Forests and Climate Change (MoEF & CC) (under the Environment Protection Act, 1986)
Importance	ESZs are crucial for maintaining the ecological balance, and integrity and protecting the wildlife of India

10 Years of India's First Environmental Referendum

- Ten years ago, on April 18, 2013, the DongoriaKondhs, a particularly vulnerable tribal group (PVTG) from Rayagada in Odisha won a legal battle.

- In the Orissa Mining Corporation Ltd vs Ministry of Environment & Forest case, the Supreme court recognised their cultural, religious and spiritual rights on the Niyamgiri Hill, over Vedanta Company's claim to exploit the hills for bauxite.

- The Supreme Court ordered a referendum is to be held amongst the affected Gram Sabhas to obtain the consent on the project from the community.

- They all unanimously voted against it in the referendum.

Fernarium in National Park

- Eravikulam National Park (ENP) in Kerala has a Fernarium set up inside the park.

- This is the first time such a fern collection has been established in the hill station.

- Out of 104 available varieties, 52 varieties of ferns have already been planted in the new Fernarium.

- Ferns are part of the Epiphytic family.

- They grow naturally in a soilless condition.

- The plants obtain water and nutrients through leaching from trees.

- ENP is the natural habitat of NilgiriTahr in Munnar.

50 Years of Bandipur Tiger Reserve

- Bandipur in Karnataka completed 50 years as a Project Tiger Reserve.

- On April 1, 1973, the then Prime Minister Indira Gandhi launched the flagship conservation programme to arrest the big cat's dwindling population.

- There were 12 tigers in Bandipur when Project Tiger was launched.

- Today, the number of tigers utilizing the park is 173.

- Bandipur was among the first nine reserves to be brought under the flagship programme.

- The Bandipur Tiger Reserve is an important component of the country's first biosphere reserve, Nilgiri Biosphere Reserve.

New 'Carbon-Neutral' Hubs

- The Tamil Nadu government has selected Rajapalayam and Rameswaram to be made 'carbon-neutral hubs'.

- Rajapalayam is strategically situated at the foothills of the pristine Western Ghats, with reserved forests.

- It is also part of an important catchment for the upper Vaippar river basin.

- Rameswaram, a spiritual destination, attracts thousands of tourists every day.

- To achieve carbon-neutrality, the government has planned to take following steps: o Establishing bio-CNG plants for wet waste processing, o Promoting a low-emission lifestyle through land use planning, o Removal of accumulated waste through biomining, and o Increasing low-emission transport systems.

- It will also work for increasing the carbon sink through afforestation.

- It establishing material recovery facilities to reduce ocean-bound plastic.

Distribution and Utilization of Water bodies in India

News

- A report released by the government last week has shed light on how many water bodies India has and how they are being used

- Ministry of Jal Shakti released first report on water bodies in India

- The report identified 24,24,540 water bodies in India

- In this watershed survey, any natural or man-made water bodies are used for various uses such as irrigation, industrial, aquaculture, domestic use, reclamation, and groundwater recharge.

Chart 1 :

Chart 1 | The chart shows the types of water bodies (in %) across India
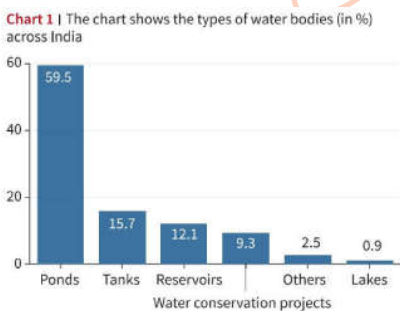
- Ponds - 59.5% = 1,442,993

- Tanks - 15.7% = 3,31,805

- Reservoir - 12.1% = 2,92,280

- Water Conservation Scheme - 9.3% = 2,26,217

- Lakes - 0.9% = 22,361

- Others - 2.5% = 58,884

- West Bengal - Ponds

- Andhra Pradesh - Tanks

- TN - Lakes

- Maharastra - Water Conservation Scheme

- A mobile application containing all water bodies images including latitude and longitude has been developed for this purpose

Chart 2 :

Map 2 | The map shows the location of ponds, lakes, tanks, reservoirs and water conservation projects

U.P. Ponds: 2.39 lakh

W.B. | Ponds: 4.57 lakh

Andhra | Tanks: 1.13 lakh

Maharashtra | Water conservation projects: 90,023

Tamil Nadu | Lakes: 13,629

- Ponds
- Tanks
- Lake
- Reservoirs
- Water conservation projects
- Others
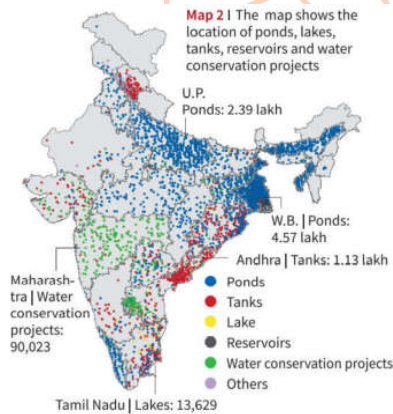
- Location of all water levels is given

- Each point represents nearly 500 water bodies

- High water levels are used for aquaculture related activities, irrigation, groundwater harvesting, domestic needs and drinking water needs.

- 20,30,40 at usable water levels

- 55.5% Aquaculture = 11,26,830

- 16.5% Irrigation = 3,35,768

- 12.1% - Groundwater harvesting = 2,44,918

- 10.1% - domestic needs and drinking water needs = 2,05,197

- Others are used for recreational, industrial, religious and other activities

Chart 3 :

Chart 3 | The chart shows the usage of water bodies (in %) across States

Legend:
- Fish farming
- Domestic/drinking
- Irrigation
- Religious
- Recreational
- Industrial
- Groundwater recharge
- Others
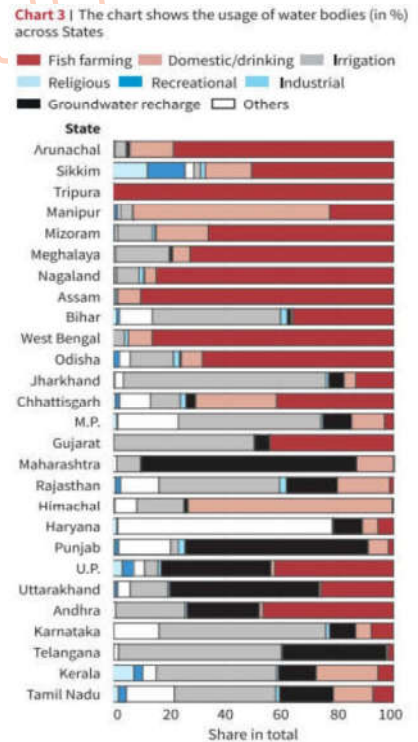
- In the states, it is specified for which purpose it is used in large quantities.

X. Economy

1. Economy

Foreign Trade Policy (FTP) 2023 Announced

Context :

- Ministry of Commerce and Industry launched the Foreign Trade Policy 2023, which will come into effect from April 1, 2023.
- FTP 2023 sets a $2 trillion target for exports of goods and services by 2030 with a shift from incentives to remission and entitlement-based regime.

What is an FTP?

- A trade policy is a government policy that affects the number of goods and services a country exports and imports.

Significance of FTP :

	Significance
Export Promotion	Increases revenue through exports and stimulates economic growth
	Encourages exports and attracts foreign investment
Collaboration with States and Districts	Facilitates export promotion at the regional level
Economic growth	Reduces transaction costs and simplifies export processes
	It facilitates the flow of the economy in a country and increases foreign exchange in a country.
For domestic consumer	It aids in facilitating free trade and liberalization and improving the overall market for domestic consumers of a country.

Aim of FTP 2023:

- To enhance the competitiveness of Indian exports in the global market (India's overall exports are about to reach US $760 billion this year)
- Promote sustainable development of the country's trade sector
- Make India a leader in specific sectors such as pharmaceuticals, engineering goods, and textiles
- To promote a digital economy and leverage technology to enhance the competitiveness of Indian exports.

The Key Approach to the policy is based on these 4 pillars :

- An incentive to Remission (Reduction/cancellation of a debt, duty, or penalty)

- Export promotion through collaboration – Exporters, States, Districts, Indian Missions
- Ease of doing business, reduction in transaction cost and e-initiatives and
- Emerging Areas – E-Commerce Developing Districts as Export Hubs and streamlining SCOMET policy

Major Features of FTP 2023 :

Feature	Description	Significance
Process Re-Engineering and Automation	The new policy focuses on export promotion and development through automated IT systems for various approvals, making it easier for MSMEs and others to access export benefits.	It will also encourage MSMEs to participate in the global market.
Towns of Export Excellence	Four new towns (Faridabad, Mirzapur, Moradabad, and Varanasi) have been designated as Towns of Export Excellence (TEE) in addition to the existing 39 towns. The TEEs will have priority access to export promotion funds under the MAI scheme.	It will boost the exports of handlooms, handicrafts, and carpets.
Recognition of Exporters	Exporter firms recognized with 'status' (e.g. 2-star, 4-star, 5-star ratings) based on export performance will now help in skilling and training (similar to the 'each one teach one' initiative)	This will help India build a skilled manpower pool capable of servicing a $5 Trillion economy before 2030.
Promoting export from the districts	The FTP aims at building partnerships with State governments and taking forward the Districts as Export Hubs (DEH) initiative to promote exports at the district level and accelerate the development of the grassroots trade ecosystem.	It will help in identifying and promoting local products and services.
Streamlining SCOMET Policy	India is placing more emphasis on the "export control" regime to comply with the international treaties and agreements entered into by India. SCOMET: "Special Chemicals, Organism, Materials, Equipment and Technologies" items are dual-use items having the potential for both civilian applications as well as weapons of mass destruction.	A robust export control system in India would provide access to dual-use High-end goods and technologies to Indian exporters while facilitating exports of controlled items/technologies under SCOMET from India.
Facilitating E-Commerce Exports	The FTP 2023 outlines the intent and roadmap for establishing e-commerce hubs and related elements such as payment reconciliation, bookkeeping, returns policy, and export entitlements.	It will help Indian exporters tap into the potential of e-commerce exports and increase their global reach.

Facilitation under the Export Promotion of Capital Goods (EPCG) Scheme	The EPCG Scheme, which allows the import of capital goods at zero Customs duty for export production, is being further rationalized. Additional schemes such as the PM MITRA scheme have been added to claim benefits under the Common Service Provider scheme. Battery Electric Vehicles, Vertical Farming equipment, Wastewater Treatment and Recycling, Rainwater harvesting systems, and Green Hydrogen are added to Green Technology products – will now be eligible for reduced Export Obligation requirements under EPCG Scheme	It will promote domestic manufacturing and encourage investment in capital goods.
Facilitation under the Advance authorization Scheme (AAS)	AAS provides duty-free import of raw materials for manufacturing export items. It has been now extended to the export of the Apparel and Clothing sector	It will promote domestic manufacturing and encourage investment in the textile sector.
Merchanting trade	Merchanting trade involves the shipment of goods from one foreign country to another foreign country without touching Indian ports, involving an Indian intermediary. Merchanting trade of restricted and prohibited items under the export policy would now be possible.	It will help convert financial centres such as GIFT city etc. into major merchanting hubs as seen in places like Dubai, Singapore and Hong Kong.
Amnesty Scheme	Similar to the "Vivaad se Vishwaas" initiative, the government has introduced a special one-time Amnesty Scheme under which Exporters who have been unable to meet their obligations under EPCG and Advance Authorizations can be regularised on payment of all customs duties exempted in proportion to unfulfilled export obligations. The interest payable is capped at 100% of these exempted duties under this scheme.	It will help in reducing litigation and fostering trust-based relationships to help alleviate the issues faced by exporters.

About the Previous Trade policy : The Foreign Trade Policy 2015-20

- It merged various schemes into a single Merchandise Export from India Scheme (MEIS) and simplified the nomenclature of Export Houses. The policy also introduced incentives for Special Economic Zones and recognized successful business leaders as Status Holders. A new chapter on Quality Complaints and Trade Disputes was incorporated to resolve trade disputes between exporters and importers. The mid-term review of the policy increased the scope of MEIS and SEIS and extended the validity of Duty Credit Scrips.

Ministry of Micro, Small and Medium Enterprises (Msme) Implements Revamped Credit Guarantee Scheme for Micro & Small Enterprises (CGSME)

- It was launched in 2005 to make available collateral-free loans to micro, small and medium enterprises. It also motivates first generation entrepreneurs towards self-employment by providing credit guarantee funding for third-party guarantee-free / collateral-free loans. Lending institutions include commercial banks, Regional Rural Banks, Scheduled Urban Co-operative Banks, Non Scheduled Urban Co-operative Banks, etc.

- Implementing Authority- Credit Guarantee Fund Trust, established by Ministry of MSME and Small Industries Development Bank of India (SIDBI).

Revamped Provisions :

- Corpus of CGSME : Has been infused with a sum of Rs. 8,000 crore.

- Reduction of Annual guarantee: Fee for loans uptoRs. 1 crore from a peak rate of 2% per annum to as low as 0.37% per annum.

- Limit on ceiling for guarantees: Has been enhanced from Rs. 2 crore to Rs. 5 crore.

- Claim Settlement : For settlement of claims in respect of guarantees for loan outstanding uptoRs. 10 lakh, initiation of legal proceedings will no longer be required.

Salient Features :

- Eligible avtivity : Manufacturing and services including retail trade allowed. SHG and agriculture , are ineligible for coverage.

- More than 100 MLIs : PSUs, Pvt Banks, MFI, RRBs, Foreign Banks, SFBs, SUCBs and NBFCs

- 75%-85% Coverage : Extent of guarantee coverage ranges from 75% to 85%

ASBA : Trading in the Secondary Market

Context :

- The Securities and Exchange Board of India (Sebi) approved a framework for an Application Supported by a Blocked Amount (ASBA) like facility being made available to investors for secondary market trading.

About ASBA :

- ASBA stands for Application Supported by Blocked Amount. It is a facility that allows investors to apply for initial public offerings (IPOs) and invest in the stock market without actually transferring the money to the IPO issuer or stockbroker upfront. Instead, the investor's application money is temporarily blocked in their bank account until the shares are allotted to them.

- This helps investors earn interest on their money while it is blocked and also eliminates the risk of fraud or misappropriation of funds by intermediaries.

Features :

- Under the framework client will continue to earn interest on his blocked funds in his savings account till the time amount is debited.

- There will be a direct settlement with the clearing corporation (CC), without passing through the pool accounts of the intermediaries, thereby providing client-level settlement visibility to CC and thus avoiding the risk of co-mingling of clients' funds and securities.

More guidelines for trading in the Secondary Market :

- Set up a Corporate Debt Market Development Fund (CDMDF) in the form of an Alternative Investment Fund to act as a backstop facility for the purchase of investment grade corporate debt securities during times of stress to instil confidence amongst the participants in the corporate bond market.

Advance Pricing Agreements (APA)

Context :

- Central Board of Direct Taxes (CBDT) has entered into a record 95 Advance Pricing Agreements in FY 2022-23 with Indian taxpayers.
- With this, the total number of APAs since the inception of the APA programme (2012) has gone up to 516 (420 Unilateral APAs (UAPAs) and 96 Bilateral APAs (BAPAs))

About APA	Description
Definition	It is an agreement between a taxpayer and a tax authority that sets out how international transactions between related companies will be priced, to avoid any confusion or disagreement about the pricing of those transactions.
Example	For example, let's say Company A in India sells products to its subsidiary Company B in the US. Company A can enter into an APA with the Indian tax authority and the US tax authority to agree on the transfer pricing methodology that will be used to determine the pricing of these products (being sold to its own subsidiary).
Objective	The main objective of an APA is to keep a check on big multinational companies so that they do not engage in tax evasion by adjusting their profits based on their inter-corporate transactions (transfer pricing).
Guidelines included in	Income Tax Act, 1961
Transfer Pricing	Charges at which one company provides goods, finance, or services to another related company, based on Arm's Length principle
Types of APA	Unilateral, Bilateral, and Multilateral
Benefits	Certainty in tax liability, minimized audit tasks, reduced cost of administration for tax authorities
Time	APA helps determine the arm's length price of international transactions in advance for a maximum of five future years (taxpayer also has the option to roll back the APA for four preceding years = Total of nine years of tax certainty)
Application process	Filing an application with DGIT for Unilateral APA, with Competent Authority for Bilateral/Multilateral APA, negotiations carried out by CAs of tax authorities involved.

About CBDT :

- The Central Board of Direct Taxes is a statutory authority functioning under the Central Board of Revenue Act, 1963. The officials of the Board in their ex-officio capacity also function as a Division of the Ministry dealing with matters relating to the levy and collection of direct taxes.

Draft 'Sagarmala Innovation and Start-Up Policy'

Context :

- The Ministry of Ports, Shipping and Waterways (MoPSW) has released a draft policy called the 'Sagarmala Innovation and Start-up Policy' to promote and nurture start-ups and entrepreneurs in India's growing maritime sector.

Aim of the policy :

- To create a strong ecosystem for fostering innovation and entrepreneurship in key areas for start-ups to flourish, including decarbonization, data optimization, maritime education, and cybersecurity.

Implementation :

- Through the development of Maritime Innovation Hubs (MIH) that will offer incubators and accelerators, and help to attract investment and facilitate access to global experts, entrepreneurs, and investors.

Features of the draft policy	Significance
Digital portal-based selection of startups	Ensures a transparent process for selecting startups and promotes fairness in the selection process.
Grants for creating a minimum viable product/service (MVP)	Provides financial support to startups to help them create a minimum viable product or service, which can help them attract investors and scale their business.
Creation of 'Launch pads' at Ports	Provides startups with a space to carry out trials, pilot projects, and work on solutions.
Annual Start-up Awards in the maritime sector	Recognizes and rewards the efforts of innovative startups in the maritime sector.
Guidance to Non-Registered Start-ups and Individuals	Provides guidance and support to individuals and startups with promising ideas in the maritime sector.
Regulatory support in Tenders and Sub-contracting	Provides regulatory and legal support to startups in the tendering and sub-contracting process.
Legal and accountancy backup to start-ups	Provides legal and accounting support to startups, which can help them with tasks such as filing patents, registering their company, and annual filings.
Development of Maritime Innovation Hubs (MIH) for the promotion of Start-Ups	These hubs provide a range of facilities and support for startups, including incubators and accelerators, centralized repositories, and entrepreneur development programs.

Conclusion :

- These features can help to create a strong ecosystem for fostering innovation and entrepreneurship in the maritime sector in India, which can drive sustainable growth and employment opportunities.

Dabba Trading

Context :

- The National Stock Exchange (NSE) has issued several notices warning retail investors not to subscribe or invest in dabba trading

About Dabba Trading :

	Information
What is Dabba Trading?	Informal trading outside the purview of stock exchanges centredaround stock price movements. However, trading is done without actually buying or selling the stocks on a formal stock exchange.
Example	If an investor places a bet on a particular stock at a price point of Rs. 1000, and the stock price later rises to Rs. 1500, the investor would make a profit of Rs. 500. However, if the stock price falls to Rs. 900, the investor would have to pay the difference to the dabba broker.
Risks	Lack of investor protection, dispute resolution mechanisms and grievance redressal mechanisms available within an exchange; the possibility of broker defaulting in paying the investor or entity becoming insolvent or bankrupt
How is it facilitated?	Transactions are facilitated using cash and operated using unrecognised software terminals
Why is it problematic?	Helps dabba traders escape taxation and remain outside the purview of the formal banking system
Legal implications	Recognised as an offence under Section 23(1) of the Securities Contracts (Regulation) Act (SCRA), 1956 and upon conviction, can invite imprisonment for a term extending up to 10 years or a fine up to ₹25 crores, or both

Green Deposits

Context :

- Reserve Bank of India issued detailed guidelines for acceptance of 'green deposits' by banks and NBFCs.

Framework for 'Green Deposits' :

	Information
Definition of Green Deposit	Interest-bearing deposits are offered by banks and NBFCs for a fixed period, with proceeds used to promote sustainable investments in environmentally-friendly sectors
Eligibility	All scheduled commercial banks including small finance banks (excluding RRBs, LABs, and payment banks) and all deposit-taking NBFCs registered with RBI, including HFCs
Denomination	Indian Rupees only

Sectors	Renewable Energy, Energy Efficiency, Clean Transportation, Climate Change Adaptation, Sustainable Water and Waste Management, Green Buildings, etc.
Exclusions	Projects involving new or existing extraction, production and distribution of fossil fuels; Nuclear power generation; Direct waste incineration; Landfill projects; Hydropower plants larger than 25 MW, etc.
Monitoring	Green deposit funds are subject to independent third-party verification on an annual basis.

India and Malaysia Trade in Rupee

- India and Malaysia have agreed to settle trade in the Indian rupees.

- India is willing to take concrete steps towards de-dollarisation of its international trade.

- This initiative by RBI is aimed at facilitating the growth of global trade and to support the interests of the global trading community in Indian rupees.

- International Bank of Malaysia has operationalised this mechanism by opening a Special Rupee Vostro Account through Union Bank of India.

- India-Malaysia bilateral trade touched $19.4 billion during 2021-22.

- Malaysia is the third largest trading partner of India in the ASEAN region, after Singapore and Indonesia

THE RUPEE TRADE ROUTE

UAE, Sri Lanka, Maldives, Saudi Arabia, some African & Latin American nations have responded positively to trade with India in rupee

- Government of India is in talks with some smaller countries as it is trying to expand bilateral trade through bespoke rupee accounts.

- The step is to overcome the dollar-dominated trades

- Countries that India is talking to include African countries such as Zimbabwe, Djibouti, Ethiopia, Malawi, Sudan, Nigeria and Tanzania

- India's trade with Djibouti, Namibia, Ethiopia, Kenya and Cuba can be settled in Indian rupees against franc, Namibian dollars, birrs, shillings and pesos respectively

Jamnagar to Kanchipuram : Mapping India's Major Export Destinations

- Jamnagar in Gujarat is the number one export district in India

- It contributes 24% to India's total GDP in FY 2023 (up to January).

- Surat in Gujarat and Mumbai suburbs in Maharashtra are second and third respectively

Top 10 Exporting Cities

- Dakshina Kannada - Karnataka

- Devbhumi Dwaraka - Gujarat

- Baruch - Gujarat

- Katch - Gujarat

- Mumbai - Maharastra

- Kanchipuram - TN

- Gautam Buddh Nagar - Uttar Pradesh

Export Hubs

- The data for the maps and the table was sourced from the export import dash-board maintained by the Ministry of Commerce. All the data pertains to the year FY 2022-23 (until January)
- In FY 2023, the districts which are likely to contribute the most to the state-level exports are given
- Example : Kanchipuram accounts for 33 percent of Tamil Nadu's exports. This is the highest share of the state
- Some leading exporting districts contribute only up to 20 per cent
- Example : Indore in Madhya Pradesh and Jaipur in Rajasthan contribute only 21% each to state-level exports.
- On the other hand the districts in North Eastern states contribute 90% of the state level exports

Example :

- Gomti - Tripura
- Ri Bhoi - Meghalaya

- East Sikkim - Sikkim
- Districts like Dakshina Kannada, Gautam Buddh Nagar & Ernakulam contribute 40% to 50% of their respective state exports.
- Jamnagar contributes the most to the export of petroleum products from India
- At the same time, Kanchipuram is exporting high quality smart phones
- Also Figure 1 shows the highest export contributing districts in each state

Example

District	State	Product
Kamrup	Assam	Tea
Gautam Buddh Nagar	Uttar Pradesh	Smart Phones
Raipur	Chhatttisgarh	Rice
Mumbai Suburb	Maharastra	Diamond

Commodity	District	State	Share
Petroleum Products	Jamnagar	Gujarat	67%
Precious Stones & Jewellery	Surat	Gujarat	36%
Smartphones, Electric parts	Gautam Buddha Nagar	Uttar Pradesh	26%
Vehicles	Kancheepuram	Tamilnadu	21%
Rice, Wheat & Other Cereals	Karnal	Haryana	17%
Pharmaceutical Products	Medical Medchal Malkajgiri	Telangana	15%

2. Socio Economic Issue

World Development Report 2023 : Migrants, Refugees, and Societies

Context :

- The 'World Development Report 2023: Migrants, Refugees, and Societies' was recently released by the World Bank.

The World Development Report (WDR):

- It is an annual report published since 1978 by the International Bank for Reconstruction and Development (IBRD) or World Bank.
- It provides an in-depth analysis of a specific aspect of economic development.

Highlights of the WDR 2023 :

- The share of working-age adults will drop sharply in many (developed) countries over the next few decades.

  - Spain, with a population of 47 million, is projected to shrink by more than one-third by 2100, with those above age 65 increasing from 20 to 39% of the population.

- Most low-income countries are expected to see rapid population growth, putting them under pressure to create more jobs for young people.

Opportunities offered by migration :

- Migration is becoming more urgent due to severe divergences between and within countries – in terms of real wages, labour market opportunities, demographic patterns and climate costs.

- It can be a unique opportunity for economies and people as well as meet the growing needs of both origin and destination countries.

- Migrants transfer ideas, knowledge, and technology, spurring job creation and modernisation – just as US Silicon Valley expatriates did when they helped nurture India's IT sector.

Challenges :

- As populations across the globe age at an unprecedented pace, the global competition for workers and talent will intensify.

- About 184 million people worldwide (including 37 million refugees) lack citizenship in the country in which they live.
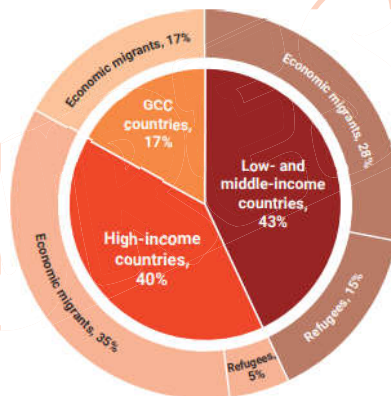
Recommendations to promote migration :

- The WB proposed policies to harness economic opportunities and for better migration management in destination, transit and origin countries (to mitigate the risks that migrants face). For example,

  - Origin countries should make labour migration an explicit part of their development strategy.

  - Destination countries should facilitate their inclusion and address social impacts that raise concerns among their citizens

- Match-Motive Framework: By combining "match" and "motive," the framework identified policy priorities for countries.

  - The "match" aspect is grounded in labour economics and focuses on how well migrants' skills and related attributes match the needs of the destination countries.

  - The "motive" refers to the circumstances under which a person moves in search of opportunity.

  - This determines the extent to which migrants, origin countries and destination countries gain from migration: The stronger the match, the larger the gains.

- The report also urged for international cooperation and multilateral efforts to strengthen the match of migrants' skills with the needs of destination societies.

Chhattisgarh : Naxal Bomb Attack

- 10 policemen and their driver were killed in a bomb attack by Naxalites in Dantewada district of Chhattisgarh.
- This area is located at a distance of 450 kilometers from the capital Raipur. The naxals attacked the police vehicle by throwing a bomb

Attacks so far

- 2021 April : 22 security personnel killed in gunfight with Naxals in Terram forest area of Bijapur border in Sukma district
- 2018 : Nine Central Armed Police Force personnel were killed in a Maoist bomb attack in Sukma district in March.
- 2017 : 24 CRPF personnel were killed in an attack by Maoists in Sukma area on April 24.
- 2014 : 15 security forces were killed in an attack by Maoists on March 11 in Sukma district
- 2013 : 25 senior Congress leaders, including former state minister Mahendra Karma, were killed in an attack by Maoists on May 25 in Darba village.
- 2010 : 26 CRPF personnel killed in an attack by Maoists in Narayanpur district on June 29.
- 2009 : Four villagers were killed in an attack by Maoists in Bijapur district on September 4

XI.Science and Technology

Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX)
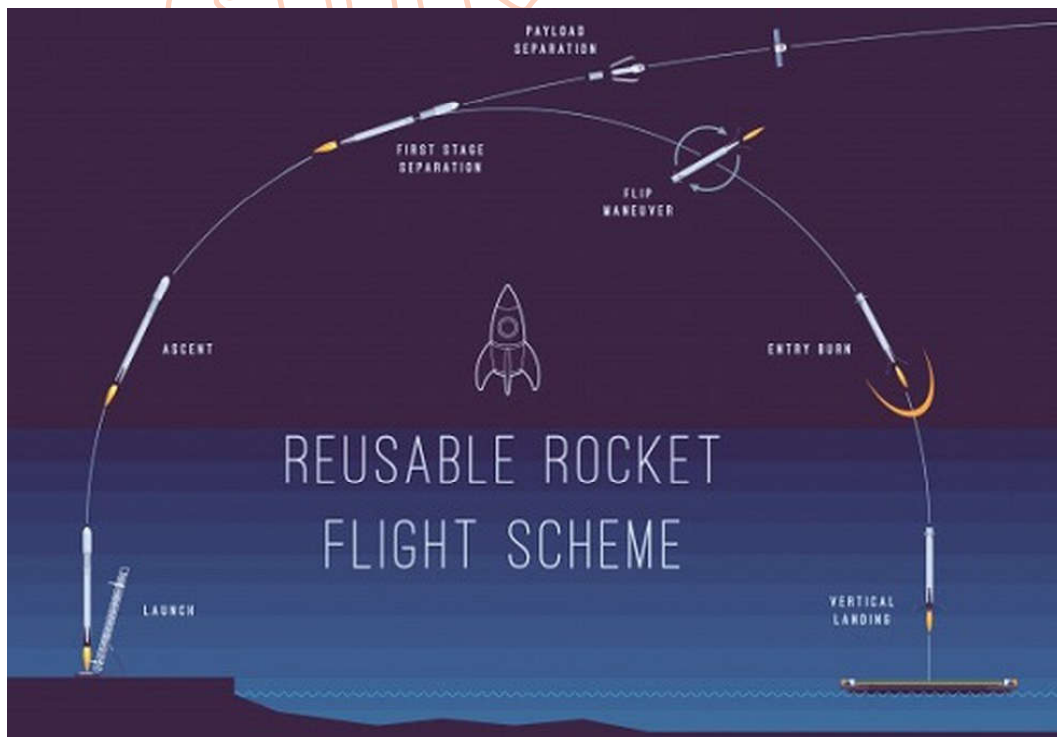
Context :

- The Indian Space Research Organization (ISRO) has successfully conducted the Reusable Launch Vehicle Autonomous Landing Mission (RLV LEX).
- RLV LEX test was the second of five tests that are a part of ISRO's efforts to develop RLVs or space planes/shuttles under the Reusable Launch Vehicle Technology Demonstration (RLV-TD) Programme.
- RLV is essentially a space plane with a low lift to drag ratio and can travel to low earth orbits to deliver payloads and return to earth for use again.
- This vehicle will be scaled up to become the first stage of India's reusable two-stage orbital (TSTO) launch vehicle.
- RLV-TD Programme aims at developing essential technologies for a fully reusable launch vehicle to enable low-cost access to space
- It includes technologies like hypersonic flight (HEX), autonomous landing (LEX), return flight experiment (REX), powered cruise flight, and Scramjet Propulsion Experiment (SPEX).
- NASA is using RLV for long time and private space agencies such as Space X demonstrating partially reusable launch systems

Advantages :

- RLV is considered a low-cost, reliable, and on-demand mode of accessing space. Challenges: Selection of materials like special alloys, composites, and insulation materials and the crafting of its parts is very complex and demands highly skilled manpower.

About Reusable Launch Vehicle	Description
Meaning	A launch system that allows for the reuse of some or all of the component stages. The vehicle returns to earth intact after a mission.
Experiment	RLV-LEX involves taking an unmanned, winged prototype to an altitude of about 4.5km on a helicopter and releasing it to land. It must travel the distance autonomously, gain velocity, maintain control and land on the runway.
Phases	Hypersonic flight experiment (HEX, conducted in 2016)à Landing experiment (LEX)à Return flight experiment (REX)àand Scramjet propulsion experiment (SPEX).
Benefits	Cheaper access to space, resource reuse
Challenges	Lack of landing technology; Reusable stages weigh more than equivalent expendable stages; Refurbishment after landing may be lengthy and expensive.
Significance	The success of the mission shows that ISRO has achieved the autonomous landing of a space vehicle.
RLV Orbital re-entry Experiment (ORE)	ISRO is working on ORE. In ORE, a wing body called an Orbital Reentry vehicle (ORV) will be taken to an orbit by an ascent vehicle derived from the existing GSLV and PSLV stages and stay in orbit for a stipulated period, re-enter and land in a runway autonomously with the landing gear.
Other reusable vehicles	USA (SpaceX Falcon 9, Falcon Heavy, Starship); Blue Origin's Space Shepard; Virgin galactic'sSpaceShipTwo

LIGO-India

Context :

- Union Cabinet on Thursday approved a project to build an advanced gravitational-wave detector in the Hingoli district in Maharashtra. The facility's construction is expected to be completed by 2030.

What are Gravitational Waves?

- Gravitational waves are ripples in the fabric of space and time that travel at the speed of light. They are created by the motion of massive objects, such as black holes or neutron stars, which generate gravitational waves when they orbit or collide with each other.

- According to Albert Einstein's theory of general relativity, any object with mass warps the space-time around it. When two massive objects orbit each other or collide, they produce ripples or waves in space-time that propagate outward at the speed of light.

- Gravitational waves are extremely weak and difficult to detect. They were first directly detected by the Laser Interferometer Gravitational-Wave Observatory (LIGO) in 2015, a century after they were predicted by Einstein's theory.

About LIGO-India

Location	Hingoli district, Maharashtra, India
Built by	Department of Atomic Energy and the Department of Science and Technology with an MoU with the U.S. National Science Foundation
Type of facility	Laser Interferometer Gravitational-Wave Observatory (LIGO)
Purpose	To detect and study gravitational waves. LIGOs are designed to measure changes in distance that are several orders of magnitude smaller than the length of the proton.
Network	Four comparable detectors need to be operating simultaneously around the globe to localise a source of gravitational waves anywhere in the sky. LIGO-India will be the third of its kind in the world, made to the exact specifications of the twin LIGO, in Louisiana (first) and Washington (second) in the U.S. A fourth detector in Kagra, Japan, will also be made.

Indian Space Policy 2023

Context :

- The government has approved the Indian Space Policy (ISP) 2023, to boost private sector participation and increase investments in the space sector from private companies.

Need for Indian Space Policy 2023:

- India currently has about 2% of the Global space economy (the USA has over 50% share)
- Indian Space Industry was valued at $7 billion in 2019 and aspires to grow to $50 billion by 2024.
- India needs to utilise its cost-effectiveness in the space sector
- The size of the space economy in India is small and is mostly government funded.

- Increase private sector participation: The United States, Europe, and Russia-all have space industries with big players like Boeing, SpaceX, AirBus, Virgin Galactic, etc.

Details of the ISP 2023 :

Dimension	Details
Private sector participation	The policy seeks to institutionalize the private sector participation in the space sector, with ISRO focusing on research and development of advanced space technologies. The private sector can take part in end-to-end space activities that include building satellites, rockets, launch vehicles, data collection, and dissemination.
Private sector infrastructure	The policy encourages the private sector to invest in creating new infrastructure for the sector and outlines the framework for the private sector to use ISRO facilities for a small charge.
Global Space Economy	India's share in the global space economy (currently at less than 2%) will be increased to 10% in the future.
Roles and responsibilities	The policy delineates the roles and responsibilities: ISRO: It will focus on developing new technologies, new systems, and research and development. It will not do any operational and production work for the space sector. NSIL: It will carry out strategic activities related to the space sector and will work in a demand-driven mode. INSPACe: It will be the interface between Indian Space Research Organisation and non-governmental entities.
Operational missions	The operational part of ISRO's missions will be moved to the NSIL

- ISRO: The Indian Space Research Organisation (est. 1969; founder- Vikram Sarabhai; parent org: Space Commission; HQ: Bengaluru) is the national space agency of India, operating under the Department of Space.

- IN-SPACE: It acts as a single-point interface between ISRO, and everyone who wants to participate in space-related activities or use India's space resources.

- NewSpace India Limited (NSIL) (announced in Budget 2019, PSU under the Department of Space) aims to use research and development carried out by ISRO over the years for commercial purposes through Indian industry partners.

Conclusion

- The policy will provide a strategic roadmap for the growth and development of India's space program, to promote innovation, technological advancements, and international cooperation, and to ensure national security in the space domain.

Organisation Chart
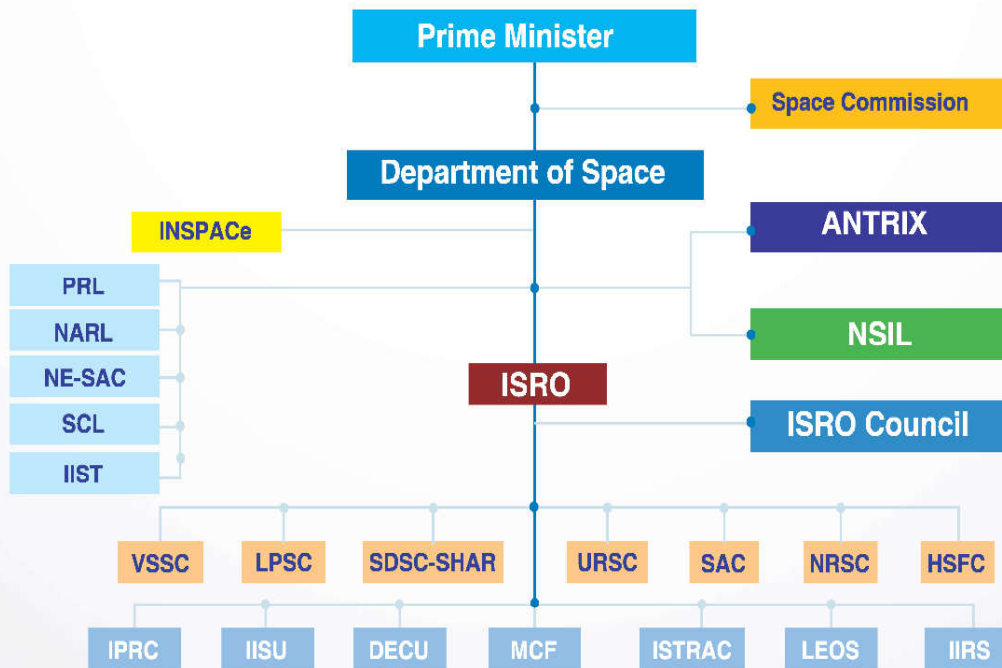
PRL: Physical Research Laboratory **NARL:** National Atmospheric Research Laboratory **NE-SAC:** North Eastern Space Applications Centre **SCL:** Semi-Conductor laboratory **IIST:** Indian Institute of Space Science and Technology **ISRO:** Indian Space Research Organisation **INSPACe:** Indian National Space Promotion and Authorization Center **Antrix:** Antrix Corporation Limited **NSIL:** NewSpace India Limited **VSSC:** Vikram Sarabhai Space Centre **LPSC:** Liquid Propulsion Systems Centre **SDSC:** Satish Dhawan Space Centre **URSC:** U R Rao Satellite Centre **SAC:** Space Applications Centre **NRSC:** National Remote Sensing Centre **HSFC:** Human Space Flight Centre **IPRC:** ISRO Propulsion Complex **IISU:** ISRO Inertial Systems Unit **DECU:** Development and Educational Communication Unit **MCF:** Master Control Facility **ISTRAC:** ISRO Telemetry, Tracking and Command Network **LEOS:** Laboratory for Electro-Optics Systems **IIRS:** Indian Institute of Remote Sensing

Detecting Toxic Pollutants

Context :

- Scientists from the Centre for Nano and Soft Matter Sciences (CeNS) have developed a new low-cost substrate that can increase the sensitivity of Surface-enhanced Raman spectroscopy (SERS), to help detect pollutants particles such as N-nitroso diphenylamine (NDPhA), a potent carcinogen and a severe threat to mankind

What is Raman spectroscopy?

- Raman spectroscopy is a scientific technique that helps to identify and study the properties of different materials. It works by shining a laser beam on a sample and measuring the scattered light that comes back. This scattered light contains information about the chemical composition and structure of the material being studied, which can be used to identify different molecules and compounds.

- Sir C.V. Raman was awarded the Nobel Prize in Physics in 1930 for his work on Raman spectroscopy.

Complete Human Genome

Context :

- For the first time, the first complete end-to-end human genome has been published, as scientists have finally filled the gaps in the human genome that were previously too confusing to piece together.

What is Genome?

- A genome is a genetic material that provides instructions for the development, growth, and functioning of all living organisms, composed of DNA with a sequence of chemical bases that determines an organism's characteristics.

- German botanist Hans Winkler coined the word "genome" in 1920, combining the word "gene" with the suffix "-ome," meaning "complete set," to describe the full DNA sequence contained within each cell.

What is Genome Sequencing?

- It is the process of determining the complete DNA sequence of an organism's genome. It involves identifying the order of nucleotides (A, T, C, G) that make up the DNA molecule in each of the chromosomes of an organism.

An analogy to understand Genome :

- The genome can be compared to a reference book. In this analogy, a genome contains the DNA– instructions for life. It's composed of a vast array of nucleotides (letters) that are packaged into chromosomes (chapters). Each chromosome contains genes (paragraphs) that are regions of DNA which code for the specific proteins that allow an organism to function.

What was the issue?

- Human Genome Project completed the first human genome in 2003. However, scientists weren't actually able to put together all the genetic information in the genome. There were gaps: unfilled, often repetitive regions that were too confusing to piece together. With the advancement of technology, these gaps have been filled now.

Finding	Description
Number	The human genome contains roughly three billion nucleotides
Protein Coding genes	Just under 20,000 protein-coding genes (making up less than 2% of human DNA)
Non-Coding DNA	The remaining 99% of non-coding DNA sequences that do not produce proteins
Repetitive element	Over 50% of the human genome is repetitive, with multiple copies of near-identical sequences

What is Repetitive DNA?

- It refers to sequences of DNA that are repeated multiple times within the genome of an organism. These repetitive sequences can be short, consisting of just a few nucleotides, or very long, containing hundreds or thousands of nucleotides.

Usage :

- Some repetitive DNA sequences have been found to have important functions, such as regulating gene expression, maintaining the structure of chromosomes, and protecting against the insertion of foreign DNA. However, many repetitive sequences do not have a known function and are sometimes referred to as "junk DNA".

What is Satellite DNA?

- The simplest form of repetitive DNA is called satellites, which are blocks of DNA repeated over and over in tandem. Satellite DNA is found in telomeres, which are the protective ends of chromosomes, and in centromeres, which help keep genetic information intact during cell division.

Usage :

- Researchers use satellite DNA as a genomic "fingerprint" to match crime scene samples and track ancestry.

Use of Artificial Intelligence in Medicine

Context :

- The Ministry of Ayush in India is leading an effort to integrate traditional medicine with artificial intelligence (AI) through the Ayush Grid, a comprehensive IT backbone for the traditional medicine sector.

What is Artificial Intelligence?

- Artificial intelligence (AI) refers to computer programs that can learn from and make decisions based on data. These programs are designed to perform tasks that typically require human intelligence, such as recognizing patterns, analysing images, and making predictions.

How can AI be used in Medicine?

Use Case	Example
Diagnostics	Using machine learning algorithms to analyse medical images and predict the likelihood of certain conditions, such as cancer or heart disease
Drug Discovery	Using natural language processing algorithms to analyse scientific papers and identify potential drug targets e.g., a vaccine against COVID-19
Clinical Decision Support	To analyse patient data and recommend the most effective treatments based on the patient's medical history
Telemedicine	Using chatbots or virtual assistants to provide patients with personalized medical advice and support
Predictive Analytics	To analyse patient data and predict the likelihood of certain outcomes, such as hospital readmissions or disease progression
Robotic Surgery	To control robotic surgical instruments and improve surgical precision
Personalised Medicine	E.g., Israeli health-tech firm Genetika+ is using stem cell technology and artificial intelligence (AI) software to match antidepressants to patients and minimise side effects.
Traditional Medicine	E.g., The Ayush Grid aims to transform the Ayush sector using AI to provide efficient, holistic, affordable, and quality services to all through a secure and interoperable digital ecosystem

Issues with the use of AI in Medicine :

Issue	Example
Lack of Diversity in Data	E.g., an algorithm trained only on data from white male patients may not perform well on women or people of colour.
Bias in Data	E.g., an algorithm trained on data that includes racial biases may end up perpetuating those biases.
Safety and Reliability	AI algorithms must be reliable and safe for use in healthcare settings.
Interpretability	It is often difficult to interpret how an AI algorithm arrived at its decision. This is known as the "black box" problem. In medical settings, this can be a concern because doctors need to understand the reasoning behind a diagnosis or treatment recommendation.
Privacy and Security	AI algorithms must be designed with privacy and security in mind to prevent unauthorized access or disclosure of patient information.

The government programme for the promotion of AI in Healthcare :

• Ayushman Bharat Digital India Mission

• IndiGenProgramme (for genome sequencing of Indians)

• Human Genome Project

• Health Stack

• ICMR guideline of use of AI in Healthcare

• AIRAWAT (AI Research, Analytics and Knowledge Assimilation platform): India's first AI-specific cloud computing infrastructure

Conclusion :

• Despite the challenges, the future of AI in medicine looks promising, and with continued research and development, we can expect to see even more innovative and effective applications of AI in healthcare in the years to come.

Device to Detect Milk Adulteration

• IIT Madras Researchers developed a three-dimensional (3D) paper-based portable device that can detect adulteration in milk within 30 seconds.

• The test could be even performed at home.

• It can detect multiple substances commonly used as adulterating agents including Urea, detergents, soap, starch, hydrogen peroxide, sodium-hydrogencarbonate and salt

• This new technology is affordable and could also be used to test other liquids such as water, fresh juices, and milkshakes for traces of adulteration.

Powerful 'X-class' Solar Flare

- The Sun sent out a powerful "X-class" solar flare that peaked at 8.03 AM March 29.
- The flare was classified as an X1.2 flare.
- The solar flare was detected by NASA's Solar Dynamics Observatory.
- It came from a sunspot region on our solar system's central star called AR3256.
- There are four classes of solar storms—B, C, M and X.
- A C-class storm is 10 times more powerful than a B-class storm and so on.
- Each class is therefore divided into nine subdivisions.
- The X-class denotes the strength of the flare.
- The number that comes after it signifies their strength at a finer scale

Reusable Launch Vehicle Mission

- The ISRO in collaboration with the IAF and DRDO successfully conducted the RLV autonomous landing mission (RLV LEX) at Chitradurga, Karnataka.
- This test was the second of five tests that are a part of ISRO's efforts to develop RLVs, or spaceplanes/shuttles.
- It can travel to low earth orbits to deliver payloads and return to earth for use again.
- The first test with RLV-TD (HEX1) involved the vehicle landing on a hypothetical runway over the Bay of Bengal.
- While the 2nd LEX experiment involved a precise landing on a runway.
- Three more experiments - return flight experiment (REX), powered cruise flight, and Scramjet Propulsion Experiment (SPEX) - have to be conducted.

Monster Black Hole

- Astronomers have discovered one of the biggest black holes inside a galaxy.
- The giant black hole has a mass of 30 billion suns.
- It could consume billions of suns like the one in our Solar System.
- The black hole is located in one of the galaxies of the Abell 1201 galaxy cluster.
- It is located hundreds of millions of light-years from Earth.
- This is discovered through gravitational lensing method for the first time.
- Gravitational lensing is where a foreground galaxy bends the light coming from a more distant object and magnifies it.
- When a star collapses at the end of its life, it gives birth to black hole.

1st Indigenous Quadruped Robot

- Hyderabad-based Svaya Robotics has developed India's first indigenous quadruped (four-legged) robot and exoskeleton.
- Quadruped robots are four-legged robots which can walk or run in uneven and rough terrains.
- These robots can carry 25 kg in payload and walk along with the soldier.
- By wearing wearable exoskeleton, soldiers can carry heavy loads without expending much effort.

India's First Bauxite Certified Reference Material (CRM)

- National Aluminium Company Limited (NALCO has successfully developed a Bauxite Certified Reference Material (CRM) in joint collaboration with Bhabha Atomic Research Centre (BARC).

- It is named as BARC B1201
- This is the first of its kind CRM in India and 5th in the World.
- A certified reference material is a particular form of measurement standard.

- Testing laboratories use CRMs to calibrate measuring instruments, evaluate test procedures and for quality control purposes.

Asia's Largest 4-Metre ILMT

- Asia's largest 4-metre International Liquid Mirror Telescope (ILMT) was inaugurated in Uttarakhand.
- The telescope is located at an altitude of 2,450 metre on the Devasthal Observatory campus of Aryabhata Research Institute of Observational Sciences.
- The observatory will explore the deep celestial sky, classifying objects from asteroids to supernovae, and space debris.

Missile Amogha III

- Bharat Dynamics Limited has carried out a successful test of its 'Amogha-III' Missile.

- It is the latest 3rd generation man-portable Anti-Tank Guided Missile (ATGM)

- It has a fire-and-forget capability and does not require external intervention after the launch.

- Range of the missile is 200 to 2500 meters.

Quantum Mission

Context :

- The Indian Union Cabinet has approved the National Quantum Mission (NQM), with a budget of ₹6,003 crore, to fund research and development of quantum computing technology and associated applications.

About National Quantum Mission

	Description
Objective	Develop and promote Quantum Technology in India

Time frame	2023 - 2031 (8 Years)
Major Themes	• **Quantum Computing :** Develop physical qubit computers with a capacity ranging from 50 - 1000 qubits (to be completed within 3-8 years) • **Quantum Communication :** Develop secure satellite-based communication with a range of 3000 km and communication lines using Quantum Key Distribution over 2000 km (to be completed within 3-8 years) • **Quantum Sensing and Metrology :** Develop Quantum Sensors (Magnetometers with high sensitivity in atomic clock systems) for Navigation, healthcare and diagnostics, defence, and energy sectors (to be completed within 8 years) • **Quantum Material and Devices :** Develop devices and materials (superconductors, novel semiconductor structures, and topological materials) for quantum technology (to be completed within 3-8 years)
Key Agencies Involved	Department of Science & Technology, Department of Atomic Energy, Department of Telecommunications, DRDO, ISRO
Other Aim	The Mission also aims to establish four thematic hubs (T-Hubs) at research institutes and R&D centres (based on above themes)
Significance	India will be among the top six leading nations (US, Canada, France, Finland, China and Austria) involved in the research and development in quantum technologies
Other Programmes	National Mission for Quantum Technologies and Applications (NM-QTA); Quantum-Enabled Science & Technology (QuEST); C-DOT's Quantum Communication Lab and Quantum Key Distribution (QKD) solution.

About Quantum Computing :

• Quantum computing is a new way of computing that uses the principles of quantum mechanics to perform calculations. In traditional computing, data is processed using bits, which are either a 0 or a 1. But in quantum computing, the data is processed using quantum bits or qubits, which can be both a 0 and a 1 at the same time. This property of qubits is called superposition, which allows for multiple calculations to be performed simultaneously, making quantum computing exponentially faster than traditional computing for certain types of problems.

XII. Miscellaneous

1. Index

Global Unicorn Index

Context :

- After the United States and China, India has retained the third-highest number of unicorns in the world (Hurun Report on Global Unicorn)

Findings :

- India, with 68 unicorns has added 14 new unicorns since the pandemic began and stands behind USA (666) and China (316)
- Top-most unicorn in India: BYJU's ($22 billion); Swiggy and Dream11 (both at $8 billion)
- Offshore unicorn: India (70) has more than China (32) and both countries produce more offshore unicorns than any other country

Classification of Startups

Unicorns: Companies founded after 2000 and valued at least $1bn e.g. CRED

Gazelles: Likely to become unicorns in two years (USD 500mn to 1 bn) e.g. Dunzo, Rapido

Cheetahs: Likely to become unicorns in four years e.g. Pepperfry, SUGAR Cosmetics

World Bank's Logistic Performance Index 2023

Context :

- India has climbed six places in the World Bank's Logistic Performance Index (LPI) 2023, now ranking 38th out of 139 countries (from 44 in 2018)

About LPI	Description
Purpose	Benchmarking tool to help countries identify challenges and opportunities they face in their performance on trade logistics
Created By	World Bank

Duration	It comes out every two years (from 2010 to 2018); however, after the COVID-19 break, the report has been released now in 2023
Dimensions	6 (Customs, Infrastructure, International Shipments, Logistics Competence and Quality, Tracking and Tracing, Timeliness). It ranks countries on a scale of 0 to 5, with 5 being the highest score.
Top countries in 2023	Singapore and Finland
Reasons for improvement in India's performance	• Investments in Soft Infrastructure: PM Gati Shakti Scheme; National Logistics Policy; Cargo Tracking, use of RFID • Investment in hard infrastructure e.g., trade-related infrastructure; reduction of delays in cargo tracking and dwell times, etc., • Investment in Technology: Digitalisation; implementation of supply chain visibility platforms
Other initiatives	Logistics Ease Across Different States (LEADS) Report and LEADS Index

Freight Handling Index : India ranks 38th

- India has moved up to the 38th position in the logistics index published by the World Bank
- The World Bank is conducting a study on the cargo handling capacity of countries that are important in the international economy
- India was ranked 54th in the World Bank's 2014 Goods Handling Index
- The World Bank has published the results of studies conducted in a total of 139 countries. India has moved up to the 38th position

Last ranked countries

- Libya
- Cameroon
- Somalia
- Yemen
- Venezeula
- Haiti
- Cuba
- Afghanistan
- Angola
- Syria

Status of India's neighbours

- China19
- Sri Lanka73
- Bangladesh88
- Bhutan97
- Mauritius97

Factors for indexing

- Customs operations
- Structural facilities
- International cargo transportation
- Cargo handling capacity
- Freight transit time
- Cargo tracking

Major Initiatives of India

- The central government has been announcing and implementing various schemes aimed at reducing the cargo handling time of the country

PM Gati Shakti

- Commencement : 2021 October
- Aim : Reducing cargo handling time, Paving the way for economic development

National Cargo Handling Policy

- Commencement : 2022
- Aim : Addressing the challenges faced by the transport sector, Reduction of cargo handling cost and time

India Justice Report 2022

Context :

- According to the India Justice Report (IJR) 2022 (3rd edition), the State of Karnataka emerged at the top among the 18 large and mid-sized States with populations of over one crore.

Background :

- The Report (initiated by Tata Trusts in 2019) is a first-of-its-kind national periodic report that ranks the capacity of states to deliver justice.

- It assesses the capacity of 4 core pillars of the justice system:
  - Police,
  - Prisons,
  - Judiciary and
  - Legal aid across all 36 states and UTs.

- Each pillar was analyzed through the prism of budgets, human resources, workload, diversity, infrastructure and trends against the state's own declared standards and benchmarks.

- The Report is a collaborative effort undertaken in partnership with DAKSH, Vidhi Centre for Legal Policy, TISS-Prayas, etc.

- The IJR 2022 also separately assesses the capacity of the 25 State Human Rights Commissions in the country.

Annual India TB Report 2023

- TB patient registration has improved by 56 per cent, from 15.5 lakh in 2014 to 24.22 lakh in 2022.

- From April 2018 till date, around Rs. 2,102 crores have been disbursed to over 79 lakh people on TB treatment across the country via Direct Benefit Transfer.

- The estimates of Drug Resistant TB in India have reduced by 20% from 1.49 lakh in 2015 to 1.19 lakh in 2021.

- As per the Global TB Report, 2022, the incidence of TB in India has reduced by 18% from 256/lakh population in 2015 to 210/lakh population in 2021.

- This is 7 percentage better than the global average of 11% reduction.
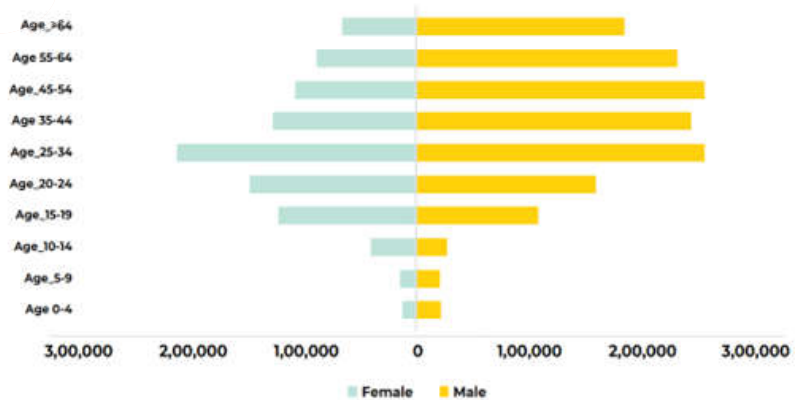
India Justice Report

- The India Justice Report (IJR) was initiated by Tata Trusts in 2019.

- This is the third edition.

- This report is based on overall data of 4 pillars of justice delivery namely Police, Judiciary, Prisons, and Legal Aid.

- In India Justice Report (IJR) 2022 the State of Karnataka has achieved the top rank among the 18 large and mid-sized

- States with populations over one crore.
- The State of Tamil Nadu has ranked in second position and Telangana in Third.
- The State of Gujarat has got the fourth position and Andhra Pradesh is at slot five

- The State of Uttar Pradesh is at rank 18 which is the lowest.
- The list of Seven Small States with a population less than one crore each, was topped by Sikkim.
- It has been followed by Arunachal Pradesh and Tripura.

- The State of Goa is at rank Seven which is the lowest.
- The Tamil Nadu Prison Department has bagged the first place.
- It is followed by Karnataka and Telangana.
- Uttarakhand and Uttar Pradesh were at the bottom rank.

Committee for Pension Reforms

- The Government of India announced the formation of a committee to look into improving the system of pension for government employees.
- The committee aims to find a middle ground between the fiscally imprudent old pension system and the reform-oriented National Pension System.
- This move comes against the backdrop of at least five Opposition-ruled states adopting the Old Pension Scheme.
- The committee will be headed by Finance Secretary T V Somanathan.

Old vs New

A look at the difference between the old and the new pension schemes

Old Pension Scheme	National Pension Scheme
■ The scheme guarantees a **life-long income, post-retirement**	■ It is a participatory scheme, where **employees contribute to their pension corpus from their salaries**, with matching contribution from the government
■ **Government bears the expenditure** incurred on the pension	■ The funds are invested in earmarked investment schemes through Pension Fund Managers
■ Under the scheme, a monthly payment is assured, where the **amount is equivalent to 50% of the last drawn salary**	■ **On retirement, 60% of the corpus, which is tax-free,** is withdrawn while the remaining 40% is invested in annuities, which is taxed

Justice K. Chandru Committee

- The Tamil Nadu government has constituted a single member committee headed by retired Madras High Court judge K. Chandru.

- It is tasked to recommend the measures for effective administration of the homes functioning as per the Juvenile Justice (Care and Protection of Children) Act of 2015.

- He will study and make recommendations regarding infrastructure, health, nutrition, staff requirement, after care issues and stakeholder participation.

World Bank's Report

- The report titled as 'Striving for Clean Air: Air Pollution and Public Health in South Asia' was released by the World Bank.
- South Asia is home to nine of the world's 10 cities with the worst air pollution.
- Dhaka ranked seventh in the list of cities worldwide with worse air quality.
- Air pollution is responsible for about 20 per cent of the total premature deaths in Bangladesh.
- In South Asia, nearly 60% of the population lives in areas where concentrations of 5 exceed an annual mean of 35 μg/m3 (WHO prescribes 5 μg/m^3).
- In the densely populated Indo-Gangetic Plain, it is over 20 times higher than the WHO-prescribed levels.
- This report identifies six major airsheds in South Asia where spatial interdependence in air quality is high.

3. News in Shorts

75 years of the WHO

Context :

- Despite some great successes, the 75-year-old World Health Organization (WHO) has received its fair share of criticism.

The World Health Organization (WHO) :

- It is a specialised agency of the UN (HQ – Geneva, Switzerland) established on 7 April (World Health Day) 1948 and is responsible for international public health.
- Members: 194 member states
- The World Health Assembly is the decision-making body of the WHO
  - Composed of health ministers from member states, WHA selects the director-general of the WHO (currently – TedrosAdhanomGhebreyesus of Ethiopia).

Mandate :

- Working worldwide to promote health and well-being $\rightarrow$ serving the vulnerable,
- Coordinating responses to health emergencies,
- Providing technical assistance to countries $\rightarrow$ Set international health standards

Achievements :

- Eradication of smallpox (1980) – the only human disease to be eradicated, the near-eradication of polio, and the development of an Ebola
- Efforts helped in realising the goal of health as a human right.

Current priorities include :

- Communicable diseases: HIV/AIDS, Ebola, COVID-19, malaria and tuberculosis
- Non-communicable diseases: Heart disease and cancer; healthy diet, nutrition, and food security; occupational health; and substance abuse.

The failed attempts of WHO :

- Eradication of malaria: The WHO launched the Global Malaria Eradication Programme (1955). But there was little/no progress and the program was discontinued in 1969.
- COVID-19: Some critics complained that the WHO failed in the early detection of the disease and was not doing enough to support member states.

Main issues faced by the WHO :

- Stymied by a divided world with nations advancing their own interests at the cost of others.

- WHO does not have the authority –
  - to enforce its recommendations.
  - to take action in a member state unless that member state asks for help.
- The funding mechanism (voluntary contributions) lacks transparency and accountability framework.

Changes made by the WHO to its structure :

- It now cooperates with tech companies and relies to a lesser degree on national governments for crucial health information → lowering the chances of missing the start of another serious disease outbreak.

Challenges and way ahead :

- The world will experience more frequent and more severe health threats in the future.
- It means there is a need to come together around joint priorities and support WHO to –
  - Strengthen the Public Health Emergency of International Concern (PHEIC) declaration process
  - Devise a collaborative mechanism to disburse funding for projects without bias.

Conclusion :

- These reforms will help the WHO to become a truly global health enforcement policy.

GAMOSA

Context :

- A scarf – a hybrid creation of an Assamese gamosa and a Bengali gamcha – became the subject of controversy in Assam.

Assamese gamosa/gamusa (Body wipes or Towel) :

- It is generally a white rectangular piece of cloth with primarily a red border on two sides and red woven motifs on the other two sides.
- Although the cotton yarn is the most common material for making/weaving gamosas, there are special occasion ones made from Pat silk.
- It is a symbol of the culture and identity of Assam and had received the Geographical Indication (GI) tag in 2022. Context: The Cumbum grapes recently earned the Geographical Indication tag or GI tag.

Tamil Nadu's Cumbum Grapes

Context :

- The Cumbum grapes recently earned the Geographical Indication tag or GI tag.

About the grapes :

- Cumbum Panneer Thratchai, also known as Cumbum grapes, is a variety of grapes grown in the Cumbum Valley located at the Western Ghats in Tamil Nadu, India.

Features :

- The grapes are medium to large in size, compact, and suitable for making wine, spirits, jams, canned grape juice, and raisins.
- Introduced in Tamil Nadu in 1832 by a French priest, these grapes are rich in vitamins, tartaric acid, and antioxidants, and reduce the risk of some chronic diseases.

'Mircha' Rice

Context :

- Mircha' rice of Bihar's West Champaran has been awarded the GI tag.

Features of the Rice :

- Name : The size and shape of the grain appear like that of black pepper; hence it is known as Mircha or Marcha Rice.

- The grains and flakes of this rice have a unique aroma that makes it different. The cooked rice is fluffy, non-sticky, sweet and easily digestible with a popcorn-like aroma.

SagarSetu Mobile App

Context :

- The App Version of the National Logistics Portal (Marine), named 'Sagar-Setu', has been launched by Ministry for Ports, Shipping and Waterways.

Aim :

- The app will provide real-time information on vessel-related information, gate, container freight stations, and transactions, enabling digital transactions for payments.

Benefits :

- The app will boost maritime trade, enhance the economy of the country, and increase the visibility of operations and tracking.

About NLPM :

- National Logistics Portal (Marine) is a national maritime single window platform encompassing complete end-to-end logistics solutions to help exporters, importers, and service providers exchange documents seamlessly and transact business.

- Maritime India Vision 2030 (expected to supersede the Sagarmala Scheme) aims to build ports and digitize maritime infrastructure within the country.

NagriDubraj rice

Context :

- The Geographical Indication Registry has granted Chhattisgarh's aromatic rice, NagriDubraj, a geographical indication (GI) tag facilitating the brand to get a unique identity and a wide market.

About NagriDubraj rice	It is produced by a women's self-help group "MaaDurgaSwasahayataSamuh". The grain finds reference in Valmiki Ramayana.

Features	It is an indigenous variety and has small grains, is very soft to eat after cooking, and is known as the Basmati of Chhattisgarh because of its fragrance

Previously, Jeeraphool rice (also from Chhatisgarh) was granted a GI tag in 2019, Dubraj is the second brand to get the GI tag.

J&K : Give Plastic, Take Gold

Context :

- Sadiwara, a village in South Kashmir's Anantnag district, has launched an innovative and eco-friendly initiative called 'Give Plastic and Take Gold'.

About :

- The schemes offer a gold coin as a reward to anyone who collects 20 quintals of plastic waste.

Impact :

- Within 15 days of starting the campaign, the village was declared plastic-free. The initiative has gained popularity and has been adopted by other panchayats as well.

Values :

- The initiative is innovative, unique, environment-friendly, community-led and participative.

AmritSarovar Mission

AmritSarovar Mission (launched on 24th April 2022) to develop and rejuvenate 75 water bodies in each district of the country, creating 50,000 water bodies of a size of about an Acre or more, as part of the celebration of AzadikaAmritMahotsav.

About	Details
Ministries Involved	Department of Rural Development, Department of land resources, Department of Drinking Water and Sanitation, Department of Water Resources, Ministry of Panchayati Raj, and MoFECC
Collaborations with various Schemes	The mission utilizes Mahatma Gandhi NREGS, XV Finance Commission Grants, PMKSY sub-schemes such as Watershed Development Component, and HarKhet-KoPani besides States' own schemes.
Target	To be completed by 15th August 2023
People's Participation	Local freedom fighters, their family members, Martyr's family members, Padma Awardees and citizens of the local area wherein an AmritSarovar is to be constructed, will be engaged at all stages.

About AzadiKaAmritMahotsav	AzadiKaAmritMahotsav celebrates 75 years of independence and the glorious history of its people, culture and achievements.
	Period: From 12th March 2021 (starting the 75-week countdown) to 15th August 2023 (to our 75th anniversary of independence)

India elected to UN Statistical Commission

Context :

- India has been elected to the highest statistical body of the United Nations for a four-year term beginning January 1, 2024

About UN Statistical Commission:

- The United Nations Statistical Commission (est. 1947; HQ: New York) is a Functional Commission of the United Nations Economic and Social Council. It oversees the work of the United Nations Statistics Division.

Members :

- Its 24 member states are elected by the Economic and Social Council on the basis of the following geographical distribution: African states (5), Asian States (4), Eastern European States (4), Latin American and Caribbean States (4), Western European and other States (7).

First-Ever Anti-Spyware Declaration

Context :

- The US and 10 other nations (India is not part of it) issued the first-ever significant anti-spyware declaration

Aim :

- The declaration seeks to realize the importance of stringent domestic and international controls on the proliferation and use of this technology.

Need for this declaration :

- Threat posed by the misuse of commercial spyware e.g., Israeli software Pegasus, Hermit spyware

Countries involved :

- Australia, Canada, Costa Rica, Denmark, France, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States

What is a Spyware?

- Spyware is software with malicious behaviour that aims to gather information about a person or organization and send it to another entity in a way that harms the user—for example, by violating their privacy or endangering their device's security.

Automated Testing Station

- Government has extended mandatory fitness testing through a registered ATS for heavy goods and passenger motor vehicles to October 1, 2024. In 2022, fitness testing was made mandatory from April 1, 2023 under Central Motor Vehicle Rules 1989. An ATS uses mechanical equipment to automate the various tests required to check the fitness of a vehicle. Special purpose vehicles, state governments, etc. were allowed to open ATS for testing the fitness of both personal and transport vehicles.

AVALANCHE

- Several tourists were killed after an avalanche struck the Gangtok- Nathula road in Sikkim.

- Avalanche is a mass of material moving rapidly down a slope Snow avalanche begins when an unstable mass of snow breaks away from a slope. Types: rock avalanches (consist of shattered rock), ice avalanches (occur in the vicinity of a glacier), debris avalanches (contain unconsolidated materials, e.g., loose stones and soil)

Exercise Kavach

- Exercise Kavach is a joint military exercise involving the assets of the Army, Navy, Air Force and Coast Guard conducted at Andaman and Nicobar command.

Basholi Painting

- They are known for their miniature art style from the Kathua district (Jammu) and have received the Geographical Indication (GI) Tag. It is the first independent GI-tagged product from the Jammu region. It is considered the first school of Pahari paintings These are painted on paper, cloth, or wood using natural pigments and dyes. GI tag is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.

The Language Friendship Bridge

- The Indian Council for Cultural Relations (ICCR) has launched a project called 'The Language Friendship Bridge' to train people & create a pool of experts in 10 languages (like Kazakh, Uzbek, Burmese, and Sinhalese) that are spoken in countries with which India has historical & cultural ties: Myanmar, Sri Lanka, Uzbekistan, and Indonesia.

Significance :

- This move is significant as it reflects India's interest in expanding its cultural and economic footprint in nations with whom it has historical ties, and also recognizes the importance of promoting language learning and cultural understanding in order to strengthen ties with neighbouring countries.

India's 1st 3D Printed Post Office

- Bengaluru (Cambridge Layout in Ulsoor) is set to have India's first post office built using 3D printing technology.

Benefits :

- The 1,100 sqft building is expected to cost 30-40% less than conventional buildings.

Significance :

- The successful completion of this project may encourage other government organizations to explore the use of 3D printing technology in construction, paving the way for more innovation and cost savings in public infrastructure.

Usage :

- This example can be used to show how technology can be used to save public money and give a better public infrastructure.

Consistent Renewable Energy

- A Manipur village (Hengbung) in northeast India has benefited from a pumped-storage hydropower system that combines hydro with solar power.
- The system features two interconnected reservoirs that can store renewable power for release later and enables the provision of consistent lighting in homes and streets. Foundation for Environment and Economic Development Services (FEEDS), a local NGO was involved in the initiative
- India is aiming to increase its renewable generation to 500 GW by 2030.

Usage :

- Smaller hydropower has been said to be the solution for energy security in hilly areas. This example can be used for showing innovation, community participation with the help of NGOs and getting the local solution to issues.

Indigenous Chip for NavIC

Context :

- A Bengaluru-based space technology company, Elena Geo Systems, has developed a chip (named NavIC processor) that can form the core of Navigation, Positioning and Timing applications using India's indigenous satellite-based navigation system, NavIC.
- Previously, IIT-Bombay had developed a homegrown receiver chip – Dhruva
- Indian NavIC GPS system has faced issues in integration with mobile phones as the mobiles require an extra chip (unlike USA's GPS). This has been one of the major obstacles to the widespread use of NavIC.

About NavIC :

Topic	Information
About NavIC	NavIC is a stand-alone navigation satellite system developed by ISRO. It consists of 7 satellites (3 Geo stationary and 4 Geosynchronous) covering India's landmass and up to 1,500 km beyond its boundaries.
Operational	Approved in 2006, NavIC became operational in 2018
L1 band	India is trying to shift to L1 frequency (from current L5 and S bands) as it will increase the use of NavIC in wearable devices and personal trackers.
Applications	NavIC is being used in public vehicle tracking, emergency warning alerts for fishermen, and tracking and providing information related to natural disasters.
Other global navigation systems	Global Positioning System (GPS) of the U.S.A; Galileo from the European Union; Russia's GLONASS; China's Beidou; QZSS covers the Asia-Oceania region, with a focus on Japan.

Bioluminescence

Context :

• Recently, Visakhapatnam beaches started glowing due to a phenomenon called bioluminescence

About Bioluminescence	Description
Definition	Production and emission of light by living organisms.
Mechanism	The chemical reaction between luciferin (a molecule that, when it reacts with oxygen, produces light.) and oxygen, is catalyzed by the luciferase enzyme. Bioluminescence is chemiluminescence that takes place inside a living organism
Prevalence	Found in many marine organisms, including bacteria, algae, jellyfish, fish, and sharks
Functions	Used for warning or evading predators, luring or detecting prey, and communicating within a species
Examples	Fireflies, anglerfish, jellyfish, bioluminescent plankton
Visakhapatnam	Here the phenomenon is most likely the result of an algal bloom (significant accumulation) of the dinoflagellate species of noctiluca and ceratium. These emit light when disturbed by breaking waves

'Animal Pandemic Preparedness Initiative' (APPI) and the 'Animal Health System Support for One Health'

Context :

- Union Ministry for Fisheries, Animal Husbandry and Dairying has launched the Animal Pandemic Preparedness Initiative (APPI) and World Bank-funded Animal Health System Support for One Health (AHSSOH) to enhance India's preparedness and response to potential animal pandemics, in line with the One Health approach.

About APPI and AHSSOH :

	APPI (Animal Pandemic Preparedness & Response)	AHSSOH (Animal Husbandry Infrastructure Development Fund)
Objective	Enhance India's preparedness and response to potential animal pandemics	Create an ecosystem for better animal health management using the One Health approach
Key pillars	Integrated disease surveillance & monitoring (built on National Digital Livestock Mission), disease modelling algorithms and early warning systems, strengthening regulatory system (e.g., Nandi online portal), targeted R&D	Strengthen district laboratories, provide mobile veterinary units in remote and high-risk areas, upgrade dispensaries and hospitals, train veterinarians and private diagnostic labs
Implementation period	–	5 years as a Central sector scheme
Coverage	–	Initially covers five states – Assam, Odisha, Madhya Pradesh, Maharashtra, and Karnataka

Significance :

- Both APPI and AHSSOH are important initiatives aimed at improving animal health and reducing the risk of potential pandemics. Both initiatives are essential in promoting animal health and welfare, which in turn can have a positive impact on human health and the economy.

Gond Painting

Context :

- Gond painting, popular folk art of the Gond tribe in Madhya Pradesh, has been awarded the Geographical Indication (GI) tag.

About Gond Painting

	Information
About	Gond painting is one of the most famous artworks of the Gond tribal community, done to preserve, remember, and communicate the rich culture

Evolution	Digna and Bhittichitra paintings evolved into present-day Gond paintings
Famous Artist	Jangarh Singh Shyam
Materials	Handmade paper, canvas, natural and synthetic colours
Tools	Paintbrushes
Themes and Designs	Local flora and fauna, deities, urban culture, and daily life. These paintings are geometrically drawn on the walls of the hut. It also includes portraits of Lord Krishna, crows with pots, young boys, and girls
Signature Patterns	Dots, fine lines, curved lines, dashes, fish scales, drops of water, seed shapes, and geometrical shapes
Location	It is mainly done in Patangarh Village in the Dindori district of Madhya Pradesh.
About Gond Tribes	The Gond tribe is one of the largest tribal communities in India. The name Gond comes from "Kond" meaning green mountains. Their main occupation is Agriculture or daily wages

Indore-Model Waste Treatment

- The Indore-model waste treatment is a sustainable and cost-effective way of managing wet waste while also producing clean energy. It involves the bio methanation of wet organic waste, which produces bio-CNG (compressed natural gas) as a by-product. It has been recognized as one of the most effective waste management models in the world and has inspired over 72 countries to replicate it.

Usage :

- It can also be used as an example of "Waste to Wealth". This mitigates the issues of waste management as well as energy security.

Mangrove Pitta Bird

Context :

- A census of mangrove pitta birds was conducted in two coastal districts of Odisha, India, where the nearly threatened species is found.

- A total of 179 individual mangrove pitta birds were counted, with the highest concentration found in the mangroves near the Mahipura river mouth inside the Bhitarkanika National Park.

About Mangrove Pitta bird	The mangrove pitta is a species of passerine bird in the family Pittidae native to the eastern Indian Subcontinent and western Southeast Asia.
Scientific name	Pitta megharencha
Conservation status	Near Threatened
Habitat	Coastal mangrove forests in Eastern India

Characteristics	Forages on the ground and rests on trees
First census location	Coastal mangrove patches in Kendrapara and Jagatsinghpur districts, Odisha, India

About Bhitarkanika National Park

- Bhitarkanika National Park is the second-largest Mangrove ecosystem in India. It is inundated with waters from rivers Brahmani, Baitarani, Dhamra and Patasala forming a unique ecosystem. It is the breeding place for the Salt Water Crocodiles. The Gahirmatha Beach which forms the boundary of the sanctuary in the east is the largest colony of the Olive Ridley Sea Turtles.

PTP-NER Scheme

Context :

- Ministry of Tribal Affairs have launched Marketing and Logistics Development for the Promotion of Tribal Products from the North-Eastern Region (PTP-NER) for improving the lives of the talented artisans belonging to the Northeast.

About the Scheme :

About	Description
Nodal Ministry	Ministry of Tribal Affairs
Type	Central Sector Scheme
Aim	To strengthen livelihood opportunities for tribal artisans through increased efficiency in procurement, logistics, and marketing of tribal products from North Eastern States
States Covered	Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim
Nodal Agency	Tribal Cooperative Marketing Development Federation (TRIFED)
Key Features	Facilitates backwards and forward linkages through incubation support, aggregation, skill and entrepreneurship development, sourcing and procurement, marketing, transportation, and publicity
Tribal Artisans Melas (TAMs)	Central government to organize TAMs in April and May to showcase tribal products. The empanelment of tribal artisans will be done directly or through Tribal Artisan Melas (TAMs).
Partners	North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC), India Post and North Eastern State Government Departments/ Agencies

India's First Environmental Referendum

- Ten years ago, on April 18, 2013, the DongoriaKondhs, a vulnerable tribal group in India, won a landmark legal battle in the Supreme Court against Vedanta Company's plans to exploit the Niyamgiri Hill for bauxite.

What did the court say?

- The court recognized the cultural, religious, and spiritual rights of the tribe on the hill and gave the Gram

Sabha the authority to examine possible infringements on their rights due to the proposed project. The Supreme Court ordered a referendum to be held amongst the affected Gram Sabhas to obtain consent on the project from the community, which unanimously voted against it.

- The referendum resulted in a rare registration of the DongoriaKondhs' claim for sovereignty, self-determination, and territorial autonomy.

Usage :

- Niyamgiri case today serves as a textbook example of good usage of Free, Prior Informed Consent (FPIC), for any environmental projects. The case can be a quote in an Essay/Ethics/ Environment question.

100 Food Streets in 100 Districts

Context :

- The Ministry of Health has proposed the operationalization of '100 food streets across 100 districts' in the country to promote safe and hygienic food practices.

About the Eat Right Food Street Project :

Key Details	Description
Aim	To promote safe and healthy food practices, reduce food-borne illnesses, and improve overall health outcomes
Implementing Authority	Ministry of Health and Family Welfare in collaboration with the Ministry of Housing and Urban Affairs
Funding	Financial assistance of ₹1 crore per food street/district provided to States and Union Territories
Implementation	Through the National Health Mission (NHM) in convergence with the Ministry of Housing and Urban Affairs and technical support from the Food Safety and Standards Authority of India (FSSAI)
Number of Food Streets	100 food streets in 100 districts across the country
About National Health Mission	It was launched in 2013 subsuming the National Rural Health Mission and the National Urban Health Mission, with the aim to achieve universal access to equitable, affordable & quality healthcare services that are accountable and responsive to people's needs.

Indian Skimmers

Context :

- The Satkosia wildlife sanctuary in India has recorded the breeding of Indian Skimmers for the first time

ABOUT INDIAN SKIMMER :

	Information
Common Name	Indian Skimmer, Indian Scissors-bill (Rynchopsalbicollis)
Native	The Indian Skimmer is native to India, Bangladesh, Myanmar, Nepal, Pakistan and Vietnam.
Habitat	Coastal estuaries, sandy lowland rivers, lakes, marshes, estuaries
Distribution	Western and eastern India, with breeding locations mostly along the Chambal River in Central India
IUCN	Endangered
CITES Status	Not listed
Threats	Habitat degradation, disturbances near rivers
About Satkosia wild-life sanctuary	Located in Odisha on the banks of the Mahanadi River, the sanctuary is one of the critical tiger habitats by the National Tiger Conservation Authority (NTCA).

Women Officers on the Front Lines

- 108 women have been given the rank of Colonel in the Indian Army
- In 1992, women were first inducted into the Indian Army
- But they have been given an opportunity to serve only for 14 years on the basis of short-term service
- A case was filed against this in the Supreme Court
- After hearing this, the Supreme Court said, "Women should be appointed in permanent service in the army. There should be no discrimination between men and women."
- Promotion toColonel is given on the basis of merit without discrimination between men and women
- The same approach should be followed in ranks including Brigadier.

India–Britain Joint Military Exercise Begins

- A joint military exercise named Ajay Warrior is being conducted between India and Britain
- Seventh joint military exercise begins in Britain's Salisbury Plain
- The objective of the exercise is to build positive military-to-military relations, learn each other's best practices, improve teamwork and capability, and enhance information exchange between the militaries of the two countries.

Keeladi Augmented Reality App

- The Tamil Nadu CM released a Keeladi augmented reality app.
  - ○ It helps people from across the globe can view the 200 artefacts excavated in Keeladi in augmented reality and 3D mode.

Tamil Nadu's Manamadurai Pottery

Context :

- Recently, Manamadurai pottery was given GI tag

Aspect	Information
	Manamadurai Pottery recently earned a GI tag
Location	Manamadurai in Sivagangai district, Tamil Nadu, India.
Raw materials	Soil, water, sand, lead, graphite, calcium lime, ash, red lead, sodium silicate, manganese, iron, and plasticizing.
Unique features	Use of a unique type of clay sourced from water bodies; Pot making requires expertise as the bottom has to be perfectly round and the circumference of the pot and the neck should be proportionate; The pot is painted in different colours.

SWAGAT Initiative

Context :

- Prime Minister will participate in a programme marking 20 years of completion of the SWAGAT initiative in Gujarat

About the SWAGAT initiative :

Aspects	Details
Name	SWAGAT (State Wide Attention on Grievances by Application of Technology)
Year started	2003
Purpose	To act as a bridge between citizens and the government by solving their grievances
Components	State SWAGAT, District SWAGAT, Taluka SWAGAT, Gram SWAGAT, LokFariyad program
Unique feature	Helps the common man air their grievances directly to the Chief Minister
Frequency	Held on the fourth Thursday of every month
Grievance rate	More than 99% of grievances submitted to date have been resolved
Awards received	United Nations Public Service Award in 2010 for improving transparency

'MakkalaiThedi Mayor'

- Chennai Mayor R. Priya will launch a new scheme called 'MakkalaiThedi Mayor' in the city on May 3. Under this scheme, the Mayor will visit each of the 15 zones in the city every 15 days to meet with residents and receive petitions relating to civic issues in the zone.
- The Greater Chennai Corporation (GCC) already has a helpline, 1913, to resolve civic issues, and residents are encouraged to use this helpline as well as the 'Namma Chennai' app to report civic issues.

Usage :

- The example can be used in governance case studies. It shows the values of -Accountability, Responsiveness, Empathy, and Transparency

SMART-PDS

- The Scheme for Modernization and Reforms through Technology in Public Distribution System (SMART-PDS) was proposed by the Department of Food and Public Distribution.
- The centre urged all states and union territories to implement the SMART-PDS to ensure the smooth operation of the public distribution system.
- It aims to transform the Public Distribution System's information technology to standardize the operation and implementation.
- The smart PDS is a joint operation of the central and state government.
- However, it is the responsibility of the state governments to issue smart cards.

TN REACH Initiative

- TN REACH, an institution mechanism will be formulated to use helicopters for travel between cities and towns.
- TN REACH stands for Tamil Nadu Regional Aerial Connectivity through Helicopters.
- More than 80 unused helipads across Tamil Nadu will soon be put to use with helicopter services planned by the State government.
- Tamil Nadu Industrial Corporation (TIDCO) will be the nodal agency to implement the plan.
- Heli Disha- an administrative guidance manual for helicopter operations, o Heli Sewa - a portal for providing online landing clearance for helicopter operations.

Finland in NATO

- Finland has become the 31st member of the NATO security alliance.
- North Atlantic Treaty Organization (NATO) is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April, 1949.
- NATO aims to guarantee the security of its members through political and military means.
- NATO's protection does not extend to members' civil wars or internal coups.

India's First Quantum Computing-Based Telecom Network

- India's First quantum computing-based telecom network link between Sanchar Bhawan and National Informatics Centre became operational in New Delhi.

India's First Solar-Powered Tourist Boat

- Kerala Shipping and Inland Navigation Corporation (KSINC) launched India's First solar-powered tourist vessel Sooryamshu
- This vessel can carry up to 100 passengers.
- It will operate in the Marine Drive-Kadamakudy corridor and later 10 km into the sea

Whistling Village

- Rajya Sabha MP Rakesh Sinha presented his development report on Kongthong village in Meghalaya.
- Kongthong is located in the East Khasi Hills in Meghalaya.
- It is popular as the 'whistling village' due to its unique tradition of 'JingrwaiLawbei'.
- When a child is born, the mother comes up with a unique tune for the baby.
- The tune becomes their name.
- Only the mothers can give these unique names to their children.
- Kongthong people belong to the Seng Khasi Tribe and speak Khasi language.
- According to Census 2011, the village has a population of 567.
- Out of 567, 275 are males and 275 are females, and a literacy rate of 55%

Equality Day Observation

- Tamil Nadu Chief Minister announced that the birthday of Dr Ambedkar (April 14) will be celebrated as 'Equality Day'.
- He made this announcement under Rule 110 in the assembly.
- A pledge would also be taken across the state on the day.
- The crux of the pledge is upholding equality and the oath is to rise against the social oppression in the name of caste, to stand with the oppressed for their rights and equality and to build an egalitarian society.

Mission 50K-EV4ECO

- The Small Industries Development Bank of India (SIDBI) established Mission 50K-EV4ECO.
- This is the pilot phase to strengthen the EV ecosystem.
- It includes the uptake for 2- wheelers, 3- wheelers and 4- wheelers through direct and indirect lending.
- This programme serves as a model for the SIDBI-World Bank's EVOLVE programme.

India's First Heavy Lift Drone

- Odisha Chief Minister launched the first of its kind heavy lift logistics drone.
- It is made by Odisha-based start-up 'BonV Aero'.
- It has the capacity to transport 50 kg over 10 kms.
- In its next phase, the startup aims to develop its flagship platform 'RM002' that can transport 200 kilograms of freight over 40 kilometres.

'First Village' Signboard in India–China Border

- India's Border Road Organisation (BRO) put up a signboard saying 'India's first village' in Mana village.
- It is located at north Indian state of Uttarakhand which borders China.
- The village is on the India-China border in Chamoli District.

Kochi Water Metro

- It is first of its kind public boat service in India integrated with a metro rail network.
- This project is being implemented by Kochi Metro Rail Corporation Limited (KMRL).
- It will connect 10 islands around the city in Malabar coast.
- The overall project comprises of 78 electric boats with a total of 38 terminals.

European Union GI Tag

- The European Union (EU) has granted the Geographical Indicator (GI) tag to Kangra tea of Himachal pradesh.
- It will help tea farmers of Kangra get better prices for their produce in the European countries."
- The Kangra tea had got the Indian GI tag in 2005 but it was not recognised by the EU.
- Kangra leaves are known to have Calcium, Zinc, Folic Acids, Vitamin B1, Vitamin B2 and Vitamin B6.

New Scheme for Government School Students

- Chief Minister M K Stalin launched ThiranariThervuThittam (Aptitude scheme).
- 1,000 students (500 boys and 500 girls) studying in class X will be chosen for this scheme.
- A stipend of Rs 1,000 will be provided every month until they finish Class 12.
- Students selected under this scheme will also get Rs 12,000 as stipend annually during their under-graduation and post-graduation.
- Under the initiative, IIT-M will connect one lakh students studying in rural locations of the State.
- Part of the 'Anaivarukkum IIT-M' (IITM for all) initiative, this outreach programme on STEM aims to motivate students to take up a career in semiconductor technologies.

Artsens Device

- Researchers from IIT Madras have developed a non-invasive device to screen for cardiovascular diseases.
- The device, called Artsens, can be used by non-experts for routine medical examinations.
- The device would be accessible to a large population in clinical and non-clinical settings.

Keezhadi Augment Reality App

- Tamil Nadu is a landscape with 15 years of human historical antiquity. Proper excavations are necessary to ascertain its antiquity

Excavation at eight locations

- In order to achieve the set goals, it is planned to cover all parts of Tamil Nadu and excavate sites of archaeological importance from prehistoric to historic period.
- 9th Phase Survey of Archaeological Sites in Sivagangai District, Keezadi and its surrounding Agaram & Kondhagai
- Phase III at Gangaikonda Cholapuram, Ariyalur District
- Phase II at Vembakottai, Viruthunagar
- Phase II at Thulukkarpatti, Tirunelveli
- Phase I at Kilnamandi, Tiruvannamalai
- Phase I at Porpanaikottai, Pudhukottai
- Phase I at Boothanatham, Dharmapuri
- Phase III at Pattarai perumbudur, Thiruvallur
- Tamil Nadu Archeology Indian Maritime University and National Institute of Maritime Technology are jointly conducting preliminary field investigations to discover the archaeological richness of the Sangam period Korkai harbor opposite the mouth of the Thamirabarani river.

Shoe Manufacturing Plant

Agreement between Taiwan Company - Government of Tamil Nadu

- An agreement was signed between Taiwan's High Glory Footwear Company and Tamil Nadu Industries for setting up a new footwear manufacturing plant at SIPCOT Industrial Park, Ulundurpet at a cost of Rs 2302 crore.
- Tamil Nadu, which is the second largest economy in India, should become a trillion dollar economy state by 2030.
- Setting up a shoe manufacturing plant at SIPCOT Industrial Park, Ulundurpet, Kallakurichi District. This will provide employment to 20,000 people

முதன்மைத் தேர்வுக்கான உத்தி

1. முதன்மைத் தேர்வுக்குப் படிப்பதற்கு முறையானத் திட்டத்தை வகுத்து அதை முழுமையாகப் பின்பற்ற வேண்டும்.

2. நாட்டு நடப்புகள் குறித்த விவரங்களை தினமும் தயார் செய்ய வேண்டும். புதிய தகவல்களைத் தொடர்ந்து தெரிந்து கொள்ள வேண்டும்.

3. தேர்வுக்குத் தயாராவதில் உறுதியாக இருக்க வேண்டும்.

4. ஒவ்வொரு பாடத்திற்கும் ஒதுக்கப்பட்டுள்ள மதிப்பெண்களைக் கருத்தில் கொண்டு அனைத்துப் பாடங்களுக்கும் தயாராவதற்கு போதிய நேரத்தை ஒதுக்க வேண்டும்.

5. தேர்வுக்குத் தயாராவது அலுப்பூட்டும் வகையில் இல்லாமல் இருப்பதை உறுதி செய்யும் வகையில் கால அட்டவணை தயாரிக்கப்பட வேண்டும்.

6. திருப்புதலின் போது நேரத்தை மிச்சப்படுத்துவதற்காக, முதல் முறை அல்லது இரண்டாவது முறை பயிலும் போது முக்கிய அம்சங்களை அடிக்கோடிட்டு வைத்திருக்க வேண்டும் / முன்னிலைப்படுத்த வேண்டும். நாம் முதன்முறை படிப்பதன் நோக்கம் தேவையற்ற விசயங்களை விலக்கி, நாம் படிக்க வேண்டிய பாடங்களின் அளவைப் பாதியாக குறைப்பதுதான். இரண்டாவது முறை பயிலும் போது, நாம் படிக்க வேண்டிய பகுதிகளை, தேர்வுக்கு முன் உள்ள இரண்டு நாட்களில் திருப்புதல் செய்யும் வகையில், மேலும் குறைக்க வேண்டும்.

7. முந்தைய ஆண்டு வினாத்தாள்களின் அடிப்படையில் விடைகளை எழுதிப் பயிற்சி செய்ய வேண்டும்.

8. தேர்வை எதிர்கொள்வதற்கு ஒரு விண்ணப்பதாரர் எந்த அளவுக்குத் தயாராகியிருக்கிறார் என்பதைப் புரிந்துகொள்வதற்காக அடிக்கடி மாதிரித் தேர்வுகளை எதிர்கொள்ள வேண்டும்.

9. பயிற்சியே ஒருவனை முழுமையாக்குகிறது என்பதே முதன்மைத் தேர்வுக்கான மந்திரமாக இருக்க வேண்டும்.

10. எந்தவொரு பாடத்திற்குமான பயிற்சியில் சேரும் தேர்வர்கள், அதற்கான மாதிரித் தேர்வுகளில் முழு ஈடுபாட்டுடன் பங்கேற்க வேண்டும். முதன்மைத் தேர்வுக்கும், முதல்நிலைத் தேர்வுகளுக்கும் இடையிலான முக்கியமான வேறுபாடு என்னவென்றால், முதல்நிலை தேர்வுக்கான மாதிரித் தேர்வுகளை மூன்றாவது நபரின் துணை இல்லாமல் ஆன்லைனிலோ, ஆஃப்லைனிலோ தனித்தே எழுதலாம். ஆனால் முதன்மைத் தேர்வைப் பொறுத்தவரை மூன்றாவது நபரைக் கொண்டு மதிப்பீடு செய்வது மிகவும் அவசியமாகும். மதிப்பீடு செய்யும் மூன்றாவது நபர் ஒரு வல்லுநராகவோ, அல்லது சிறந்த ஒரு பயிற்சி நிறுவனமாகவோ இருக்கலாம்.

11. முதன்மைத் தேர்வு என்பது தேர்வர் அறிந்துள்ள தகவல்களையும் அவரது நினைவுத் திறனையும் மட்டுமே சோதிப்பதாக இல்லாமல், அவர்களின் புரிதலின் ஆழம், அறிவுசார் திறன்கள் ஆகியவற்றை மதிப்பிடுவதை நோக்கமாகக் கொண்டது ஆகும். பொதுபாடத் தாள்களில் அனைத்து வினாக்களுக்கும் விடை அளிக்க வேண்டும். வினாக்களின் தன்மை ஒவ்வொரு தாளுக்கும் மாறுபடும். ஆனால், அதிக வினாக்கள் இருக்கும் என்பதால் தேர்வர் விடைகளை வேகமாக எழுத வேண்டும். விடையளிக்க வேண்டிய வார்த்தைகளின் வரம்பும் அதிகமாக இருக்கக் கூடும்.

12. முதன்மைத் தேர்வைப் பொறுத்தவரை, வார்த்தைகளின் எண்ணிக்கையை கவனத்தில் கொள்ளப்பட வேண்டிய மிக முக்கியமான அம்சமாகும்.

13. முதன்மைத் தேர்வுகளை எழுதுவதற்கான அணுகுமுறையில் தேர்வர்கள் மிகவும் தெளிவாக இருக்க வேண்டும். தேர்வு அறையில், வினாத்தாளைப் பெற்ற பிறகு, விடைகளை வேகமாக எழுத வேண்டி இருக்கும் என்பதால், சிந்திப்பதற்கு நேரம் இருக்காது. எனவே, வினாக்களை புத்திசாலித்தனமாகத் தேர்வு செய்து விடை அளிக்க வேண்டும்.

14. வினாக்களில் தரப்பட்டுள்ள கருத்துரை கொடு, கருத்து தெரிவி, விரிவாகச் சொல், காட்சிப்படுத்து, தெளிவுப்படுத்து போன்ற வார்த்தைகளின் பொருளைப் புரிந்துகொண்டு, அதற்கேற்ற வகையில் உங்கள் எழுத்துத் திறனை வெளிப்படுத்த வேண்டும்.