

JUNE 2023

CURRENT ISSUES

- Modern History
- Social Issues
- Indian Polity
- Science & Technology
- Tamil Society
- Geography
- EVS
- Indian Economy

# TNPSC GROUP-I MAINS



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## June Month Current Affairs 2023

### Index

Sl.No	Subject	Page No
<b>1. Modern History</b>		
-	Former Tamil Nadu Chief Minister M Karunanidhi Centenary Commencement : Jun 03 .....	06
-	Mahatma Gandhi and Muhammad Ali Jinnah .....	07
-	Guindy Kalaignar Centenary Super Specialty Hospital at Rs. 2.40 Crore: Superior infrastructure and specialized treatments .....	09
-	Gandhi Peace Prize 2021 for Gita Press in Gorakhpur, Uttar Pradesh .....	10
<b>2. Social Issues</b>		
-	A growing elderly population .....	11
-	Methanol .....	12
-	Let's put an end to violence .....	13
-	Inter-caste marriages seeking government encouragement .....	14
-	A child labor free Tamil Nadu : Target by 2025 .....	16
-	School Education: How to face future challenges? .....	16
-	Can the children bear the burden? .....	18
-	Secondary education dropout rate 12.6% .....	19
-	Elderly people being abused in most families .....	19
-	Five years imprisonment if a human is used to clean the sewage .....	20
-	Deaths due to sewage cleaning: A curse of caste discrimination .....	20



- What is a truly Samacheer education? ..... 21
- India removed from UN annual report on children affected by armed conflict ..... 23

### 3. Indian Polity

- Nepal electricity supply to Bangladesh via India ..... 24
- India Nepal relationship ..... 24
- Manipur riots : The central government ordered a threemember commission to investigate ..... 25
- China to increase military structures on border Ladakh bord ..... 26
- How defamation is defined? ..... 26
- Necessity of rein ..... 27
- Corona vaccination information leaked ..... 28
- India-Myanmar Trade Initiative in Rupees ..... 28
- Rs 21,413 crore mega hydropower project near China border ..... 28
- Constituency Reorganization: What is the impact on TamilNadu? ..... 29
- Uniform Civil Code: Law Commission seeks new ideas ..... 30
- What are the powers of anti-corruption enforcement department? ..... 31
- State-of-the-art drone from America ..... 33
- Courts cannot make law ..... 34
- Minister without portfolio ..... 34
- India-US relations ..... 35
- The right way to restore Manipur ..... 35
- The Wagner Rebellion ..... 37

### 4. Science & Technology

- Agni-1 missile test success ..... 39

- Sepsis .....	39
- Non-Communicable diseases .....	40
- Kavach .....	42
- Nuclear-capable Agni Prime missile test-fired successfully .....	43
- Heart diseases .....	43
- Kavach Automatic Train Safety System .....	45
- BrahMos missile is the Brahmastra of 21st century .....	46
- Chikungunya: Discovery of a safe single-dose vaccine .....	46
- Artificial intelligence : Information workers getting exploited .....	47
- Will Betelgeuse explode? .....	48
- Cancer .....	49

## 5. Tamil Society

- 11th World Tamil Research Conference .....	51
--	----

## 6. Indian Geography

- What will El Nino do to the world? .....	52
- Who owns lithium? .....	53
- Why ocean conservation is important? .....	54
- Satellite City .....	56
- Biharjoy is part of a new trend of Indian cyclones .....	56
- Economy - Scorching in the Summer .....	58
- New techniques should be developed to audit the blue economy .....	59
- Highway connecting Myanmar to Thailand .....	59

## 7. Environmental Science

- Plastic : Ways to recover .....	60
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- Worst accidents in the history of railways .....	61
- Will Periyar Wildlife Sanctuary cause affects? .....	61
- India: Cultivating the co-existence of economics and ecology .....	62
- Have an environment friendly lifestyle .....	63
- Is 50% solar power generation possible in Tamil Nadu by 2030? .....	63
- The accident that teaches a lesson .....	64
- Arikomban .....	65
- UNESCO Award for Management of Gulf of Mannar Biosphere Reserve .....	65
- Selection for International Award for the first time Acknowledgment of Marine Conservation Mission .....	65
- Sea cow: Guardian of marine life .....	66
- Greta Thunberg .....	67
- 4000 MW each in solar and wind power generation in TamilNadu .....	68
- Climate breakdown : The Arctic Ocean could be ice-free by the 2030s .....	69
- The uproar over the new COP28 President .....	70
- 2000MW offshore wind farm to be tendered in July .....	71
- PM Pranam .....	72

## 8. Indian Economics

- Cashless economy: is an immediate need? .....	73
- 40 countries are interested in adopting the UPI system introduced for money transfer in India .....	73
- India-UAE trading soon in Rupee-Dirham .....	74
- Is recovery package essential? .....	74
- When is full insurance for deposits? .....	75
- Creative sessions - Membership Duties .....	77

**01**

# Modern History

## Former Tamil Nadu Chief Minister M Karunanidhi Centenary Commencement: Jun 03

- The first two periods of DMK rule from 1967 to 1976 are very important in the modern history of Tamil Nadu.
- The late former Chief Minister M Karunanidhi was a great achiever in Tamil Nadu's political and social and economic fields.
- It was during this period when Arignar Anna and later Kalaingar M Karunanidhi were the Chief Ministers that what is known today as the Dravidian Model Government.

### The foundation laid by Anna

- On March 6, 1967, the first DMK government under the leadership of Anna took charge. Anna passed away in less than two years after that
- Even in that short period of time three major achievements by him are most famous
  1. Self-Respect Marriage Act
  2. Bilingual policy
  3. Chennai State was renamed as Tamil Nadu
- The Hindu Marriage Amendment Act 1967 legalized consanguineous marriages and marked the forerunner of the First Amendment on Women's Rights.
- The change of name of the state was the most important milestone in the entire history of Tamil Nadu
- Bilingualism is a constitutional strategy against language dominance

### Many other important laws

1. Tamil Nadu Land Revenue and Water-Cess (Surcharge) (Repeal) Act, 1967
2. Abolition of Land tax on agricultural land
3. Tamil Nadu Agricultural Lands Record of Tenancy Rights Act, 1969
4. An Act to Officially Record Details of Land Tenants
5. Tamil Nadu Agricultural Labourer Fair Wages Act, 1969
6. Tamil Nadu Land Reforms (Reduction of Ceiling on Land) Act, 1970- The Land Reforms Act reduced the ceiling to 15 acres even though it had already set a ceiling of 30 acres.
7. Tamil Nadu Industrial Establishments (National and Festival. Holidays) Act, 1970 (May Day declared as a government holiday)

### The direction Tamil Nadu has moved

- It made important assumptions regarding federal-state autonomy
- As Tamil-Tamil Nadu-Tamil history, it changed the Tamil symbols into symbols of the Tamil Nadu government



- It was the first to take important decisions related to women's rights
- It laid the foundation for social programs including 'Adi Dravidar Welfare' based planning
- Backward landholding changed the face of society, liberating especially the rural laborers from the clutches of caste-landholding.
- Huge efforts were made for educational infrastructure
- Today, Tamil Nadu has emerged from the clutches of poverty and transformed into a middle income class society.

### Biography

- Karunanidhi was born in an economically and socially backward family
- He started his struggle against caste atrocities and social inequalities in his school days itself
- Accepting Periyar as his leader, he joined the Dravidian movement and actively participated in the struggle against the imposition of Hindi
- He became an important part of the DMK, which was formed under the leadership of Anna who moved away from Periyar
- He was prominent in the Indian political arena in voicing state autonomy and fighting for state rights along the lines of Anna.
- He entered the Legislative Assembly for the first time after winning the Kuluthalai constituency.
- After that, he continued as a member of the Legislative Assembly for 60 years, creating a record.
- He became Chief Minister after Anna's death. Elected five times as Chief Minister of the state.
- His government not only implemented social justice schemes including increase in reservation which socially uplifted the backward and scheduled castes but also implemented many social welfare schemes which brought Tamil Nadu to the forefront in various development indices.

## **Mahatma Gandhi and Muhammad Ali Jinnah**

- Indian history cannot be written without Mahatma Gandhi and Mohammad Ali Jinnah. There are some similarities between the two. There are many differences as well
- Gandhi fight with morality. Truth, non-violence, satyagraha are his weapons
- Jinnah did not believe in any of these. In Gandhiji's inner mind, the thought of asserting himself, developing his influence, wanting to sit on the seat of power never arose. But it was Jinnah who was determined to take the lead and take the first place everywhere
- Gandhi did not take up the weapon of violence till the end. Jinnah promoted violence through Direct Action Day (16 August 1946)

### Request for Separate country

- Speaking early on about Hindu-Muslim unity, he took the opposite position. Both religions have different traditions and cultures
- They cannot work together. So he took up the slogan that a separate country is the solution for Muslims
- In his letter to Jinnah, Mahatma Gandhi wrote that he is the Quaid-e-Azam or My Dear Brother.
- But Jinnah wrote a letter to Gandhiji as "Dear Mr. Gandhi".

## Language

- Gandhi spoke in public meetings in his mother tongue Gujarati or in Hindi and also in Urdu and avoided speaking English.
- But Jinnah could not easily speak Hindi or Urdu. He spoke in English
- As he does not speak the regional languages, the grass roots people do not like to listen to him
- Gandhi wore coat suits while studying in England, but they were simple
- When he returned to India from South Africa he switched to Gujarati dress

## Clothing

- When he visited Tamil Nadu in 1921, he saw the poor farmers and changed to simple clothes. Gandhi lived till the end as a man of simplicity
- Jinnah liked to wear western clothes. He preferred the western style in everything
- Gandhi completely avoided meat, alcohol and smoking. Jinnah liked them and made them a habit

## Gandhiji

- Gandhiji sincerely believed that love, non-violence and satyagraha can change the mind of the enemy. Jinnah did not believe in any of these
- "A united India is my ambition; division will happen over my dead body," said Gandhiji
- When finally independence came, as his trusted commanders like Nehru, Patel, Rajendra Prasad, Kripalani and the majority of the Congress and the entire Indian people came forward to accept partition, did not want to become a dictator by forcefully imposing his idea.
- He abstained from dissenting from the majority opinion
- Gandhi also avoided participation in Independence Day celebrations. He also refused to convey wishes for Independence Day.
- He fasted on Independence Day. He spun yarn in a loom. Engaged in prayer. He prayed to God to guide the people.
- "I don't want protection; give proper protection to the Muslim brothers," he asked the people
- Jinnah loved solitude. He believed in himself. He doesn't trust anyone easily.
- He avoided exchanging ideas with others. He kept his plans secret.
- He used the demand for partition of Pakistan as a weapon to gain maximum power for Muslims.

## Jinnah

- Gandhiji conducted his protests keeping the welfare of the people in mind. He spent 249 days in South Africa and 2089 days in India for a total of 2338 days in prison.
- Jinnah never went to jail even once in his life. He does not believe in prison-filling protests
- Flag waving and sloganeering were unknown to him. The politics that he followed was by speech on the stages, writing in the press and choking his opponents face to face.
- Hindu fanatics in India dared to slander Annal Gandhi as Mohammed Gandhi





- In Pakistan, Jinnah was considered a traitor by Muslims
- 9 attempts were made to assassinate Mahatma Gandhi. On 30.01.1948, Annal Gandhi was killed in the ninth time by Godse.
- Jinnah's last words were that I had made a great mistake by getting Pakistan
- Jinnah finally passed away on September 11, 1948 at 10:20 PM.
- If both of them get reincarnated and see what their country is like, it is not the country they dreamed of, and the two countries are not brotherly countries.

## **Guindy Kalaignar Centenary Super Specialty Hospital at Rs. 2.40 Crore: Superior infrastructure and specialized treatments**

- Guindy Kalaignar Centenary Super Specialty Hospital has emerged as a super specialty hospital with integrated medical departments and facilities.

### **Individuality**

- 15 operating theatres
- High quality laboratories
- Medical Records Department
- Special facilities for differently abled persons
- 10 Elevators
- Modern laundries
- Restaurants

### **Medical fields**

- Department of Cardiology
- Department of Cardiac Surgery
- Department of Neurology
- Department of Neurosurgery
- Department of Oncology
- Department of Cancer Surgery
- Department of Gastrointestinal Medicine
- Department of Physical Gastroenterology
- Department of Urology
- Department of Urological surgeries
- Department of Vascular Surgery
- Department of Cerebrovascular Radiology

### Special fields

- Intensive care units
- Anesthesiology and intensive care
- Integrated Laboratory
- Blood bank
- Department of Radiology (CT, MRI, USG, Digital X-ray)
- Department of Systematic Medicine and Rehabilitation
- Cardiovascular study unit
- Cerebrovascular division
- Cardiac Intensive Care Unit
- Intensive Anesthesiology Unit

### Other facilities

- Private rooms and rooms with modern amenities
- Integrated disinfection station
- Integrative Pharmacy
- Chief Minister's Comprehensive Medical Insurance Scheme Division
- Information and Help Center
- Purified drinking water facility
- Waiting room
- Quality control room
- Department of Nutrition and Dietetics

## Gandhi Peace Prize 2021 for Gita Press in Gorakhpur, Uttar Pradesh

### Gandhi Peace Prize

- The International Gandhi Peace Award was introduced by the Central Government in 1995 to mark the 125th birth anniversary of Mahatma Gandhi.
- The award, which carries a cash prize of Rs 1 crore and a certificate of appreciation, is presented annually to individuals and organizations who make economic and political changes through Gandhian ways, including non-violence.
- The Union Ministry of Culture has announced that the 2021 Gandhi Peace Prize will be awarded to Gita Publishing House, Gorakhpur, Uttar Pradesh.

### Gita Press

- Founded in Gorakhpur in 1923, this publishing house is one of the world's largest publishers of Hinduism-related books.

## A growing elderly population

- On November 15, 2022, the world population has crossed 800 crores. This rapid increase in population from 700 crore to 800 crore in 12 years has created long-term challenges including food scarcity, unemployment, depletion of natural resources and environmental degradation.

### 7%

- For the first time since 1950, the world population growth rate in 2020 fell below one percent per year.
- World population growth is projected to continue to slow
- Currently overtaking China as the world's most populous country, India's average annual population growth rate is projected to be 0.7 percent between 2020 and 2040.
- This growth rate is below the world average of 0.7 percent
- The number of countries experiencing population decline will rise from 41 in 2022 to 88 in 2050, according to a recent United Nations projection.
- In fact, these figures indicate that the threat of global population growth has receded
- The rate of population growth varies considerably among countries, depending on their income and geographic structure
- Growth rates are higher in low-income countries and parts of Africa

### Increasing number of elderly people

- Growth rates are lower in middle- and high-income countries and in European countries
- Declining fertility and increasing life expectancy are responsible for the rapid rise in the number of elderly people worldwide
- Plague epidemics have only marginally affected global population size and growth
- Due to the 1.5 deaths directly and indirectly caused by the corona virus, the average human life expectancy globally decreased by almost two years in the first two years of the epidemic.

### Migration

- Between 2000 and 2022, population growth due to international migration was greatest in high-income countries.
- Among the 8.05 crore people who migrated to those countries, the number of births exceeded the number of deaths, according to the United Nations World Population Prospects 2022 report.

### The problem faced

- Experts say that the challenge facing the world in the coming years is not population growth but increasing elderly population and countries that use the challenges of aging as opportunities like behavioral changes, human capital investment in infrastructure, administrative reforms and technological innovation will make progress.

### Japan

- Half of the criminals in Japan's prisons are over 50 years old, according to the country's National Police Agency
- Japan, with its low birth rate and rising elderly population, has imposed strict restrictions on immigration

## Conclusion

- Health technology such as safe and effective vaccines, medical monitoring sensors, assistive devices such as robotics, and information technology for clinical data such as electronic medical records are already playing a role in maintaining the health of the elderly.
- Encouraging technological development will create a path of hope for the elderly in the future

## Methanol

- The chemical name of alcohol is methanol. It is also called methyl alcohol. Also called wood liquor
- If so what is available in liquor stores? It is also a type of alcohol. Its chemical name is ethanol. It is called ethyl alcohol
- Buying and drinking at the store will lead us to death little by little. Improper buying and drinking leads to instant death

## Methanol

- An Irish chemist named Robert Boyle isolated methanol in 1661.
- It is a chemical compound. Colorless liquid. It has pungent odour. Flammable easily
- Originally made from wood, this alcohol is now produced synthetically in laboratories.

## Uses

- It is used in the production of acetic acid and formaldehyde
- It is used in various industries like synthetic dyes, resins, plastic manufacturing, perfumes.
- As a solvent and fuel it helps in the preparation of paints and explosives
- Screen wash for vehicle radiators, used as antifreeze

## Changes the body undergoes

- This type of alcohol is easily absorbed and reaches the bloodstream within 30 to 60 minutes after drinking.
- This alcohol reaches the liver. It is converted into formaldehyde and formic acid by the enzymes that catalyze metabolism there
- In which formic acid causes bad effects and damages in human body
- It is this acid that affects the optic nerves and retina and causes vision loss.
- It also affects the brain and can lead to death. If not treated promptly, vision loss can become permanent.
- 10 milliliters of pure methanol can cause vision loss. Above 20 ml is a problem. People who consume between 30 ml and 60 ml of methanol are almost certain to die.
- Tragedy occurs within 12 to 24 hours of drinking

## Effects

- Nausea, Vomiting
- Stomach pain
- Blurred vision
- Inability in breathing
- Paroxysm, Nervousness

- Low blood pressure
- Also the body becomes more acidic. Pancreatic allergy may also occur. Kidney failure may occur. Eye sight is affected and vision goes first. After that, death occurs due to brain damage and bleeding there.

### Treatment

- Treatments to reduce acidity should be undertaken. Formic acid-blocking drugs, folic acid should be given
- Dialysis is also performed to remove excess methanol and formic acid from the blood. Thiamin and folate supplements can also help in treatment.
- The above mentioned medicines should be given in proper quantity and monitored regularly.

### Awareness is essential

- If we look at the victims who die from methanol, lose their sight, they are mostly from rural areas.
- There is no awareness about methanol among them. They drink such alcohol because it is available at a low price.
- Methanol enters the body not only through the mouth but also through the skin and through the nose.
- Methanol is used in various places so people should be extra careful while working in factories.

## **Let's put an end to violence**

### Terrorists

- Although extremism and terrorism seem to have the same meaning, extremism is different from terrorism
- Extremists have policies and demands. They suffer themselves for their principles and who do not hesitate to sacrifice their body, material and spirit for the principle.

### Terrorist

- Terrorism is the act of engaging in acts knowing that their violence will result in the lives of children and the elderly
- American political philosopher Michael Walzer has stated that "Terrorism is a method of deliberately killing innocent people and spreading fear among the entire population."

### Global Terrorism Index

- The Global Terrorism Index ranks terrorism based on four factors
  1. Number of terrorist incidents
  2. Number of casualties
  3. Number of injured
  4. Total property damage value
- Afghanistan topped the list of 163 countries in 2022
- India is ranked 13<sup>th</sup>. India has been identified as one of the 25 countries most affected by terrorism

### Violence in Jammu and Kashmir

- Despite widespread terror attacks across the country, it remains a recurring incident in Jammu and Kashmir
- 35 people were killed in firing by the Hizbul Mujahideen on August 3, 1998 at two locations in Samba district of Himachal Pradesh.

- On January 25, 1998, terrorists in army uniforms came to Vandama in Kandarpal district of Jammu and Kashmir killed the Pandits living there.
- India told the UN Security Council's Counter-Terrorism Committee that there has been an increase in cross-border terrorist activities in Jammu and Kashmir since the end of 2021.
- 2022 Srinagar blasts, killing of Pandits, the list goes on
- Five soldiers were recently killed in an attack on an army patrol vehicle in the Rajoripunch sector
- Jammu and Kashmir became a breeding ground for terrorism since 1980
- The security situation is said to be improving after the abrogation of Jammu and Kashmir's special status on August 5, 2019.
- But no progress seems to have been made. Attacks targeting civilians and security forces do not appear to have abated
- Violence is the basis of both terrorism and extremism. Even if the governments take action against it, the violence continues without end
- Funding of terrorist organizations, activities of various parties operating in secret without transparency, the geographical location of terrorist groups should be identified and strict action should be taken against them.
- A case in point is the recent attack on an army patrol vehicle in Rajoripunch secto in Kashmir where the vehicle was damaged.
- It is 100% correct to say that terrorists only understand the language of disaster
- People should have the feeling that our nation should not be weakened by extremism or terrorism
- People need to realize that violence cannot be justified in any way

## **Inter-caste marriages seeking government encouragement**

### **Origin and operation**

- Caste is also a mechanism for labor exploitation. In ancient India various divisions of labor arose due to the development of labor tools and based on them castes arose
- Karl Marx said that the division of labor created caste. Ambedkar said that caste is not only a division of labor but also a division of laborers
- Indian society still carries an outdated system, like believing in Mirage as water

### **Will caste be abolished?**

- A caste which arose out of a mode of production in a particular historical period in India cannot last forever
- Caste Hindus are the owners of the means of production such as land and industrial establishments
- There are people belonging to the lower castes who are propertyless and provide only their labor power for production
- To abolish caste there is a need to bring about changes in the ownership of the means of production in the relations of production and also in the minds of the people

### **Caste structure to be dismantled**

- Means of production, human labor power, scientific technology etc. are given as productive forces
- These productive forces have now grown enormously. That is, the development of professional service sectors,



science technology, information technology, educational institutions etc. have increased. Job opportunities have increased

- The reservation given to the caste-oppressed sections has resulted in education and employment opportunities for a large number of them.
- It does not help that caste can be eradicated only by abolishing religions, legends, myths, gods etc
- A large number of people who believe in Hinduism and God understand love beyond caste and prefer casteless marriage
- Films, social media, anti-caste ideological propaganda, protests, progressive art and literary works have encouraged anti-caste sentiments. So this casteless religion is possible

### **Encouragement is essential**

- "I believe caste rejection marriage is the real way to eradicate caste. Only blood mixing will create a sense of belonging to all," Ambedkar's comments are important.
- Caste-based hereditary occupations and caste-based traditions are now beginning to crumble
- Various factors for the existence of caste have also started collapsing. Mainly, the strictness of internal marriage system is starting to relax
- More than 20 percent of inter-caste marriages take place in various states. This should be encouraged
- It should ensure socio-economic security for the family after marrying out of caste

### **Government has to do**

- A separate law should be brought to prevent caste killings. The government should conduct inter-caste marriages free of charge
- The government should provide employment to one person in couple and increase the financial assistance for them
- One-third of the houses in Periyar Samathapurams should be allotted to them
- Strict action should be taken against the officials, police, marriage registrars, caste associations and political leaders who act against inter-caste marriages
- The government should create organizations at the state and district level to resolve the grievances of those who marry against caste
- The reasons why Tamil Nadu's non-caste marriages are so low compared to other states need to be identified and addressed

### **Necessity of separate reservation**

- Based on the recommendation of the Justice Venkatachaliah commission, if one of the couples in non-caste marriages belongs to a Scheduled Caste or a Scheduled Tribe, the children of the couple should be classified as "non-caste" and 0.5% reservation should be given.
- This should be increased according to their percentage
- Reservation should be extended to inter-caste marriages of other castes as well. As inter-caste marriages are on the rise, caste-based reservations should be gradually reduced and reservation for the people of inter-caste marriages should be increased.
- Late former Chief Minister M Karunanidhi had said during the legislative debate on reservation of non-caste marriage seats that an appropriate amendment to the law was necessary.
- A favorable environment has been created by the decision given by the Supreme Court regarding the reservation of seats for the economically backward among the advanced sections

- That means the Tamil Nadu government can increase the reservation to more than 69 percent. Using this, in the century of Karunanidhi, the Tamil Nadu government should enact a law to provide separate reservation for children born out of caste marriage.

## **A child labor free Tamil Nadu : Target by 2025**

- Chief Minister M K Stalin said that the goal is to create a child labor-free Tamil Nadu by 2025

### **Childhood**

- Childhood is a great life stage that happens to everyone
- It is a great crime to separate children from schools and send them to workshops when they should be enjoying themselves by playing, discussing and telling stories.

### **Target**

- The government's goal is to create a child labor-free Tamil Nadu by 2025

### **Government concessions for children**

- Free education for children to study well; Free textbooks; Notebooks to practice writing; Bag; Uniform; Breakfast and lunch to study without hunger; Slippers; Free bus pass; bicycle, these are provided by govt of TN

## **School Education: How to face future challenges?**

- Two-thirds of today's elementary school students will be working in unknown, emerging fields in the future.
- So much so that digital, artificial intelligence etc. are developing at a fast pace in today's era
- This raises the question of how to prepare students for the future

### **Change and growth**

- After the renaissance, particularly after the break from the grip of religious institutions and the advent of the scientific age, employment opportunities arose as a result of the Industrial Revolution in the West in the late 18th and 19th centuries.
- To prepare people accordingly, education became widespread and common to all. The education system was designed to specialize in science and mathematics
- It was during the same period when democracy began to spread throughout the world. As a result, there has been a lot of focus on social investment to benefit people
- This is the reason why economists point out that investing in schooling for children's future has long-term benefits for society as a whole.

### **Government schemes towards education**

- Our governments have implemented programs like free laptops. As a result, Tamil Nadu is a state that has made progress in educational development
- Students rush for admission in government schools
- At the same time, the question has arisen whether the education system that has been in use for the past two hundred years is suitable for the future

### **Beyond subject education**

- In today's changing environment, major changes are needed in school education
- There is an imperative to move away from an education that only aims at marks and build an education that develops deep knowledge and skills





## Sapiens

- The most important reason why man has distinguished himself from other creatures is his imagination
- In the book Sapiens, Yuval Noah Harari says that the ability to communicate the product of imagination to fellow human beings is what makes humans unique.
- Education is not about forcing messages into children's brains. It is a tool to stimulate their knowledge. The role of teachers is essential for that

## Importance of teachers

- Finland is a tops the world in school education
- The country has achieved this development in the last 40 years due to long-term strategic plans
- It is difficult to join the teaching profession in that country. To become a teacher, one must have a post-graduate degree from one of the eight universities in the country
- Qualification as a teacher is given in the country only after rigorous curriculum and intensive training
- Above all, teachers should have a deep understanding of child psychology

## Teacher training course

- Teacher training courses should be considered as important as medical and engineering courses
- Their performance should be reviewed every year. It should be ascertained whether the teaching has been updated according to the changing circumstances
- Continuous training should be provided. A large share of the state budget should be earmarked for school education
- Education should be decentralized and made equally accessible to all
- As the quality of government schools increases and education becomes free, the economic burden per student will decrease from Rs 50 thousand to Rs 1 lakh per year.

## Education through mother tongue

- A 2016 UNESCO study report clarifies that mother tongue education is best for bringing out the full potential of students
- It should be fully accepted and implemented. Student empowerment emerges when learning is transformed from an individual exercise to a collaborative effort

## Duties of Government

- Physical and mental health of school children is very important. To monitor it, the doctors of the nearby government hospital should make way to go to the schools on a rotating basis to examine the students
- Based on the data available by the government on all the school students studying in Tamil Nadu, it is necessary to scientifically accurately predict what the students' preferences are towards when they come to the seventh standard.
- There should be a statistical account of the diverse preferences of students like Engineering, Medicine, Economics, Arts
- The software industry has developed to the extent that all this can be known at the fingertips of today
- The government should take advantage of it. When the information about how many job opportunities are created in which field is collected and integrated, students can study in the respective fields accordingly.
- By doing this we can avoid getting stuck with not enough job opportunities after studying in the same field with blindfolds

- If we fix these within the next ten years, we can create a large number of students who are able to take on new skeletal challenges

## Can the children bear the burden?

### Child labor

- 18 North State child laborers who worked in Banyan Company in Palladam of Tirupur District have been rescued
- 25 child laborers who were used for begging in Delhi and Noida have been rescued in the last week.

### Ban by Central Govt

- The central government has imposed a ban on the employment of boys and girls in roadside shops, houses and other businesses from October 10, 2006.
- But despite this, child labor is largely used indirectly in such activities

### Count

- A 2001 estimate put the number of child laborers in India at around 12.6 million. According to the report of the International Labor Organization, there are 160 million child laborers worldwide in 2020, of which 97 million are boys and 63 million are girls.

### Target of ILO

- The organization also reports that around 79 million children are involved in hazardous occupations
- The ILO's International Program on the Elimination of Child Labor and Forced Labor aims to end all forms of child labor by 2025 and eliminate child trafficking by 2030.

### India

- According to UNICEF, India has the highest number of child laborers under the age of 16

### Laws

- It is also known that 70 percent of the children are engaged in agriculture-related industries
- The Factories Act, 1948 provides that children below the age of 14 should not be employed in any work
- The Child Labor Act, 1986 also emphasizes this concept
- Under the Child Labor Act, 1986, those found guilty of engaging child labor in hazardous work are liable to imprisonment for two years or a fine of up to fifty thousand rupees.
- Child labor is mostly used in canteens, brass working, rubber industry and brick kilns
- All these are heat dependent industries

### Physical damage

- Their youth is completely affected as they engage in highly heat intensive activities
- Due to over-age work without proper nutrition, their hearts, lungs etc. are affected at a young age and they are prone to diseases.
- The Constitution of India enshrines in Fundamental Right 24 that children below 14 years of age should not be employed in hazardous occupations

### National policy

- A National Policy on Child Labor was formulated in 1987
- In 1995 the National Child Labor Scheme was launched in Dharmapuri district



- It is an organization under the control of the State Labor Department with financial assistance from the Central Government
- Day Against Child Labor is June 12

## Secondary education dropout rate 12.6%

- According to the report, the average dropout rate of secondary education students at the national level is 12.6 percent

### Seven states

- It was also noted that seven states including Gujarat, Bihar and Karnataka have higher dropout rates than the national average

### Samagra Shiksha

- A meeting was held recently to review the functioning of the Samagra Shiksha scheme being used by the Central Government
- A thesis was prepared at the end of the meeting. It has been mentioned that the average dropout rate of students at the secondary level in the second academic year 2021-22 at the national level was 12.6 percent.
- Notably, 7 states were noted to have higher dropout rates than the national average

### National Education Policy Goal

- The National Education Policy has set a target of 100% enrollment ratio at the school level by 2030.
- Officials said rising student dropout rates would be an obstacle to achieving that goal

### Madhya Pradesh

- The dropout rate of school students in Madhya Pradesh has decreased from 23.8% in the academic year 2020-21 to 10.1% in the academic year 2021-22.
- It has been reported that the main reason for the decrease in the dropout rate is that the state government conducts special student admissions every year through the smart phone app.
- It has been noted that the suspension rate is high in tribal and Muslim populated areas

### UNICEF report

- According to a 2022 UNICEF report, the dropout rate of female students due to household works is 33 percent nationally.
- The report also mentioned that students who drop out of school become child labourers

## Elderly people being abused in most families

- A survey of 5,000 seniors across the country revealed that two-thirds of seniors reported being harassed and insulted by their families.
- World Elder Abuse Awareness Day is observed annually on June 15. In this regard, a survey was conducted across the country on behalf of Age Well Foundation

### Information in the study

- 77 percent of seniors who participated in the study were not aware of their rights. Likewise, they do not object to insults for fear of losing the love and support of family members
- Elderly people who depend on others for financial and psychological needs in old age are more vulnerable to abuse. Older women are more affected

## Five years imprisonment if a human is used to clean the sewage

### The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

- According to The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, it is prohibited to get into the cesspool under any circumstances.
- The sewage tank should be cleaned only by machines
- Section 7 of this Act provides that no person, local authority or any corporation shall, directly or indirectly, engage any employee in the cleaning of cesspools of hazardous waste water structures.
- Violators will be prosecuted. A first offense shall be punishable with imprisonment for two years or with fine of two lakh rupees or with both
- The second offense shall be punishable with imprisonment for five years or with a fine of five lakh rupees or with both
- In case of loss of life while cleaning waste water structure and sewage collection tank, the owner, contractor, employers engaged in the work will be prosecuted under The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013, Indian Penal Code and other applicable laws & action will be taken
- Also as per Ordinance 83 of Municipal Administration and Drinking Water Supply Department issued on 7th June 2002, Rs.15 lakh as compensation to the heirs of the deceased employees.

### Deaths due to sewage cleaning: A curse of caste discrimination

- The term Manual Scavengers is only in use in India
- Because this human misery is rooted in casteism, because casteism has been honored for a thousand years, because untouchability is our uniqueness, because we are unparalleled in social norms that pierce and tear apart human dignity.

### Continued deaths

- According to the National Commission for Safai Karamcharis, one person dies cleaning drains every five days
- The Commission's statistics show that 1,054 people died from sewage cleaning between 1993 and 2022.
- This figure is only the statistics reached by the Commission. There are so many deaths that are not included in this, those whose names and places are unknown, only caste is known without doubt
- Tamil Nadu (56) has the second highest number of deaths in India from 2017 to 2022, after Uttar Pradesh (61), according to the central government's tally.
- The actual number of people involved is not known. Due to the fact that the details of those who die due to involvement in this are hidden, they do not get the relief provided by the government
- The compensation amount of Rs 10 lakh fixed by the law is not available to the families of many who die. Many district governors have falsely reported that it has been eradicated in their districts
- Bezwada Wilson, who has waged a lifelong campaign against this atrocity, denounces it as "state murder".

### What does the law do?

- Mechanical drain cleaning technology is 80 years old
- It is used all over the world even in the most backward countries

- Two laws have been enacted to prohibit this disgrace, Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act 1993 & its amended act The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.
- But like many laws for the downtrodden, these too are defunct. No action is taken against those who engage in this work in violation of the law
- It is a criminal offence. A non-bailable offence. However, it is a shocking and provocative fact that the culprits have not been punished in the quarter century since the law came into force

### Redemption and Liability

- First, those who violate the law and employ them should be severely punished
- According to the law, the first step is a fine of fifty thousand rupees or imprisonment for one year or both
- Law alone is not enough to eradicate this stigma. A situation should be created that these works are not needed.
- First priority is to fully mechanize sewerage, septic tank and toilet cleaning system like other countries.
- The government should take full responsibility for rescuing the people involved in this job and employing them in alternative jobs
- Otherwise, it will be painful to survive and return to the same hellish life
- A condition should be created that no one is available to do such work
- Rescuers should be placed on a priority basis in dignified jobs with education and vocational training to ensure their rehabilitation.
- Quality free education and multi-vocational training should be provided to all members of their castes and not just the rescued
- Otherwise, if one person is rescued, another will immediately take his place
- The government should establish high schools, colleges and hostels to provide quality free education to children and youth belonging to those castes

### Necessary advancements

- They should be employed in government dairies in the business of distributing milk across the country. A situation should be created that the people of this country can buy milk only from the hands of these rehabilitated people and their castes.
- The railway sector is the most exploitative of these workers. As a remedy, only these people should be employed in all cooking food distribution and water distribution in the coaches at the railway stations.
- They should be given necessary training. When the restaurant and food sale at railway stations are contracted out to private parties, it should be made a condition of the contract that only these workers and members of their castes should be employed for all the work.

## **What is a truly Samacheer education?**

- Samacheer education has been followed for the last 13 years in the schools of Tamil Nadu. It has a history
- In the 2006 assembly election manifesto, the DMK announced that Samacheer education would be introduced in all schools to provide uniform quality of education
- The DMK government that won the election was also formed. The Tamil Nadu Samacheer Education System Act was enacted in the Legislative Assembly in 2010 based on a report submitted by a team of educators who visited the states of Gujarat, Maharashtra, Karnataka, and Kerala to investigate the matter in a one-man committee headed by Dr. S. Muthukumaran.

- Samacheer Education textbooks for classes 1 to 6 were introduced in 2010. The AIADMK government that came to power in 2011, banned Samacheer education and received strong reactions
- This educational curriculum was introduced with a view to avoid the disparities created among the students by four types of education systems namely State Government Education, Matriculation, Anglo Indian and Oriental.
- But its status after 13 years is worth exploring

### **Is there equal opportunity?**

- Tamilnadu government developed textbooks are used in all schools be it government schools, government aided schools, private schools providing English medium education.
- But are the selection and evaluation methods same? The continuous comprehensive assessment followed for the first 8 classes in government schools is not fully followed in private schools

### **Lack of teachers**

- There has been a shortage of teachers in government schools for years. Posts of retiring teachers are also not filled.
- Apart from that, many posts like office workers, cleaners, night watchmen are not fully filled and the years are rolling by as demand papers.
- As long as private schools are concerned, the learning-teaching process takes place without hindrance, with one teacher per class and one teacher per subject
- Every year new teachers are appointed there and there are no vacancies

### **But what about government schools?**

- At the beginning of this academic year alone, about 670 government higher secondary schools, 435 government high schools, 1003 government middle schools, and 1235 government primary schools have vacant posts of 'Principal'.
- Apart from this, thousands of teaching posts are also vacant

### **Slack in teaching**

- In private schools teachers are given only teaching job. So they are able to take full care of the students
- They were able to guide the students by giving them extra attention by conducting daily lessons and evaluating them
- But in government schools teachers have to do not only teaching but also all other work, so the basic work of teaching is lax

### **Benefits of projects?**

- Tamilnadu government is promoting various schemes for government school students
- Although seemingly successful programs from the outside, they can be understood on examination as creating gaps in teaching and learning
- For example "Ennum Ezhuthum Project". Are the teaching activities going to be done through this scheme for the children studying in the above four types of schools namely private schools, CBSE schools?
- Otherwise, why is this Ennum Ezhuthum scheme taught only to government school children?
- Not only this program, since the inception of the "Education for All" program, the government has been implementing numeracy programs in government schools on an examination basis for more than 20 years.

- Not all of these schemes seem to have served their purpose
- This is because children who have studied in primary schools lack basic skills when they reach higher grades
- For many years, the education system which moves only towards examination and passing has been followed
- How can we call samacheer education when lakhs of children studying in government schools and students studying in private schools are unequally educated?

### What needs to be done?

- Not only in the curriculum but also in government schools, if teachers fill vacant posts, provide one teacher per class, create an environment conducive for learning-teaching activities to take place without hindrance, do not assign non-teaching tasks to teachers, provide building facilities, maintain toilets, etc., then education will flourish.
- Instead of running schools with a focus on programs only, the above should be the aim of implementing smacheer education
- Government should ensure that all children get equal education

## **India removed from UN annual report on children affected by armed conflict**

- India's name has been removed from the UN Council's annual report on children affected by armed conflict

### Juvenile Vulnerability

- Civil war is going on in different countries of the world. Insurgent groups are engaged in armed struggle in some countries
- Children are directly affected by the armed struggle of these countries
- Militant groups involve children in insurgent groups and engage in armed struggle. Girls are being sexually assaulted

### Annual report

- Since 1997, the UN has been publishing a special report on this issue every year
- It includes a list of countries where armed conflict is taking place
- Since 2010, India's name has been featured in the annual report
- Every year the report has accused children of being involved in militant groups operating in Kashmir and the northeastern states, as well as Naxal and Maoist extremist groups.

### UN Secretary General

- The Government of India has taken creative measures to rescue and protect children from armed conflict
- The Indian government has taken concrete steps to ensure that some people, especially those from the Jammu and Kashmir region, are not affected by the armed struggle
- There is a permanent end to the zone where security forces used pellet guns in Kashmir
- India's name has been removed from the annual report of the UN
- Especially in Chhattisgarh, Assam, Jharkhand, Odisha, and Kashmir, necessary measures have been taken to protect juveniles
- Under the leadership of Smriti Rani, various schemes were implemented to protect children
- Various departments of the central government worked in collaboration with the women's welfare and child development department in this matter

**03**

# Indian Polity

## Nepal electricity supply to Bangladesh via India

- The Central Government has approved the supply of electricity to Nepal using India's power grid under a tripartite arrangement.
- Officials said India conveyed its decision to the Nepalese side during a meeting between Prime Minister Narendra Modi and Nepalese Prime Minister Prachanda.
- They said the 7 agreements signed on transport, hydropower, petroleum infrastructure, cross-border money transfer connectivity, construction of integrated check posts, etc. will further deepen bilateral relations.
- Apart from strengthening the rail transport infrastructure between the two countries, it was also discussed to start air connectivity from various cities of Nepal to India.
- Among the seven agreements signed between India and China, the Transport Amendment Agreement is the most important
- This will enable Nepal to use Indian inland waterways. Similarly, new railway lines will also be constructed for the people of Nepal
- Under the Rs 5,598 crore loan scheme, financing will be provided for construction of three major power transmission lines in Nepal.

### 10,000 MW power import target

- Talking to the media after the meeting with the Prime Minister of Nepal, Prime Minister Narendra Modi said that the cross-border money transfer connectivity system will greatly benefit Nepali students, tourists and devotees coming to India.
- A long-term power trade agreement between India and Nepal has been signed
- Under this agreement, a target of 10,000 MW of electricity import from Nepal has been set for the next 10 years.

## India Nepal relationship

### Importance

- Seven agreements were signed between the two countries during the official visit of the Prime Minister of Nepal
  1. Trade
  2. Transport
  3. Connectivity facilities
  4. Boundary problem
  5. Electricity
  6. Irrigation
- The Prime Ministers of the two countries held extensive consultations on various issues including the above said
- Among the seven agreements signed between the two countries are expansion of cross-border petroleum pipeline system, creation of integrated checkpoints, hydropower cooperation and a new transport agreement.
- The first land port on the Indo-Nepal border in Uttar Pradesh and an integrated check post at Nepalgunj in Nepal have been inaugurated.





- Freight train service between India and Nepal has been started from Bihar

### Refugees of Bhutan

- It has been reported that people from Nepal are being trafficked to America as sex workers in the name of Bhutanese refugees
- It has revealed the connection between several leaders of the ruling coalition Nepali Congress and leaders of the opposition United Marxist-Leninist Communist Party of Nepal.
- If action is taken against them, the Nepali Congress leaders may form an alliance with the opposition and topple Prime Minister Prachanda's regime.
- Therefore, the Prime Minister cannot conduct a fair investigation. If the investigation is not conducted, his rule may be disrupted
- Secondly Nepal-China relationship is going to be a big problem. On the one hand, Nepal has joined the Global Defense Initiative Agreement with the United States
- On the other hand, it is joining the BRI agreement with China
- Although Nepal does not want to interfere in any issue against China, Nepal is also reluctant to take loan assistance from China after Sri Lanka's experience.
- The prime objective of the Prime Minister's state visit is to garner India's support for its alliance
- While appeasing the nationalists in Nepal, the Prime Minister is not ready to take any action that will harm his country.

### International Airport

- Two new international airports have been constructed in Nepal at Bairahawa near Lumbini along the Indian border and at Okara.
- Bairahawa was built by China with funding from the Asian Development Bank
- Okara is an airport built by China with Chinese funding. Nepal needs New Delhi's support to operate those airports
- It is also planned to increase the 450 MW electricity sourced from Nepal to 10,000 MW in the next ten years.
- Hydropower plants play a very important role in the relationship between the two countries
- Several hydropower projects have been established in eastern Nepal with Indian assistance
- Meanwhile, the hydroelectric power station set up by the private sector on the Karnali river is paralyzed
- The Panjeshwarar project on the Mahakali river is also non-functional
- All hydropower projects with Indian investment should be implemented expeditiously. That is the main purpose of the Prime Minister's state visit

## **Manipur riots : The central government ordered a three-member commission to investigate**

- The Union Home Ministry ordered the formation of a three-member commission headed by former Guwahati High Court judge Ajay Lamba to conduct the investigation.

### Issue

- Manipur's majority Meitei community has been demanding tribal status
- This is opposed by minority tribal communities including 'Naga' and 'Kuki' communities.
- More than 80 people were killed in clashes between Meitei and tribals in various districts of the state last May 3.
- Retired IAS officer Himanshu Shekhar and retired IPS officer Aloka Prabhakar will be included in the commission.

## Investigation

- During the investigation, the background of the events that led to the riots, the actual situation of the damage caused by the violent incidents, the measures taken by the administration to control the riots and the shortcomings in them will be examined.

## China to increase military structures on border

### Ladakh border

- An international organization has warned that the Chinese government is establishing new military structures in the border areas of Ladakh
- The Chinese army has been involved in frequent encroachments in the border areas of Ladakh. In the year 2020, a major clash between Indo-Chinese soldiers took place in the Galwan Valley
- After that, the tense situation prevails in Ladakh even today
- There are reports that the Chinese army is improving infrastructure in the Chinese areas bordering Ladakh
- In response to this, the central government is constructing a new airport, new roads and bridges on the Ladakh border

### Aksai Chin

- The Aksai Chin region that borders Ladakh is controlled by China. India claims it as an integral part of Ladakh
- Galwan Valley is located in the region of Ladakh and Aksai Chin
- In June 2020 there was a huge clash between Indian and Chinese soldiers
- In this context, the Chinese government is constructing a highway named G695 to connect Aksaichin and Jingjiang region of China.
- The road stretches up to Pangong Lake. This will allow the Chinese Army to easily transport weapons and equipment
- A new helipad has been set up at the lake in Aksai Chin area. The site has facilities for parking helicopters and drones
- Border posts have been set up by the Chinese Army in the valley of the Raginalla River. This will prevent the patrolling of the Indian Army in that area
- The construction of a bridge by the Chinese Army in the Pangong Lake area is nearing completion. The completion of the bridge will increase the dominance of the Chinese military in the region

## How defamation is defined?

- In the eyes of a layman, it is considered defamation when someone makes false statements about a person in such a way as to damage his reputation.
- Defamation is any false statement that is intentionally published or spoken with the intent to tarnish someone's reputation.
- Defamation can be considered an offense under civil law or criminal law
- Compensation will be awarded to the claimant under civil law
- Defamation is a bailable offense under Section 499 of the Indian Penal Code (Non-Cognizable, compoundable)
- Non-Cognizable means the police cannot arrest without a warrant. Compoundable means that the accuser and the accused have a way of reconciling themselves

## Key elements

- Defamation is a statement that injures the reputation of a person or a class by causing hatred, insult or ridicule.
- The statement must refer to a person or some class of persons. General statements like "all ministers are corrupt" cannot be taken as slanderous

The report may be oral or written. The report must be made available to another third party

## Defendant's Rights

- It can be argued that he has only made a true statement and nothing defamatory
- He can claim that he has expressed reasonable opinions with public interest based only on true incidents

## Defamation under criminal law

- Defamation is an offense punishable under Section 499 of the Indian Penal Code
- To treat the offense as a crime is called Mens Rea
- Intent to defame is necessary. It must be proved beyond reasonable doubt that the act was done to spoil the welfare of others
- Section 499 also provides various exemptions. The Supreme Court has previously ruled that criminal defamation laws are constitutionally valid and do not conflict with the right to free speech.
- In 2016, the Supreme Court had ruled that the government cannot pursue defamation cases against political opponents and activists who promote issues such as maladministration and corruption in the public interest.

## Difficulty to prove

- Defamation charges can be difficult to prove as the accused has several defenses
- At the end of defamation cases the accused may seek pardon. Defamation Cases- At the end of defamation cases the accused may seek pardon
- A 2018 study of criminal defamation judgments handed down in the High Courts found that only 14.29% of all judgments given under Section 499 of the IPC found the defendant guilty of criminal defamation.

## Necessity of rein

- The Law Commission has recommended to the Center not to repeal the Sedition Act. The 22nd Law Commission submitted its recommendation to the government on June 2
- The Sedition Act is not a separate law. It is only a protocol referred to in Section 124a of the Indian Penal Code
- The Indian Penal Code was created by Macaulay in 1860 to suppress Indians in British India
- In 1870, an amendment to the law relating to the charge of treason was made. That is Article 124a
- During the British rule, speaking and writing against the government was considered treason
- This section of the Act allows for arrest without warning and severe punishment for those who do so
- Bal Gangadhar Tilak was twice convicted under this Act. Savarkar got a double life sentence and was exiled
- Even Mahatma Gandhi, Aurobindo, VOC was thrown in jail by this law.
- There have been several cases against this Act during the British rule itself
- Although we made our own laws when the country gained independence, many of them are a continuation of the laws implemented by the British government.
- Indian Penal Code is one of them. There were many discussions in this regard in the Constituent Assembly of India. Subsequently the British Acts were adopted with some amendments

## SC Verdict

- In independent India, this section of the Act was changed to Sedition Act instead of Treason Act
- What is significant about this is that not only the central government but also the state governments ruled by various parties, this section of the law has been used continuously
- A five-judge bench of the Supreme Court heard a case filed against the Act in 1962 and ruled that Section 124a of the IPC would apply (Kedarnath singh v. State of Bihar)
- In another case handed down in 1994-95, a two-judge bench of the Supreme Court declared that the section would apply (Balwinder Singh vs. State of Punjab)

## Opinion of Law Commission

- Misapplication of a law cannot be a ground for its repeal; The fact that it is a colonial law is no reason to reject it, says Law Commission
- Meanwhile, the Supreme Court has adjourned the case in 2021, saying that only criticism of the government is not treason after the central government announced that it would review the law.
- Freedom of expression cannot be granted to those who act against the sovereignty, stability and national unity of the country.
- Freedom of expression cannot be allowed to be used to promote separatism and disrupt national unity
- At the same time, it is not acceptable for rulers to use this clause for political reasons
- Therefore, according to constitutional architect Ambedkar, the right solution would be for the central government to introduce reasonable restrictions in this section of the law as a bill.

## Corona vaccination information leaked

### CERT-IN

- Union IT Minister Rajeev Chandrasekhar said that the data was not directly leaked from the CoWIN website, which contains the details of those who have been vaccinated against Corona.
- The Video Computer Emergency Action Committee has been ordered to submit a report on the matter

## India-Myanmar Trade Initiative in Rupees

- India-Myanmar Trade Minister U Aung Naing Oo has said that the arrangement to conduct trade between India and Myanmar through "Rupee-Kyat" will be confirmed by the end of June.
- Notably, Myanmar already has similar trade arrangements with China and Thailand.

## Rs 21,413 crore mega hydropower project near China border

- The trial run of the Subansiri mega hydropower project being constructed by NHPC on the Chinese border is about to begin
- The project started in 2003 with a capacity of 1 gigawatt. The project was delayed due to opposition from environmentalists
- About 40 clearance certificates are required from various departments before starting a hydropower project
- The dams for this project, which are being built in the tense border areas with China and Pakistan, will greatly help in boosting the local economy.



## Constituency Reorganization: What is the impact on Tamil Nadu?

### Article 81

- The new Parliament building can seat 888 people in the Lok Sabha and 384 people in the Rajya Sabha. Lok Sabha can seat 1224 people during joint session
- These calculations are a signal that the number of members will increase in the coming years
- The number of members of the Lok Sabha is 543. Article 81 of the Constitution of India states that seats should be reserved for members on the basis of population
- That means the number of MPs in Parliament should be as per the last census taken
- After each census, the number must have kept changing. But after 1971 this was not possible

### Uneven population

- Isn't it imperative that the number of members should be increased? Must be raised
- But the question why it has not been raised for 50 years should also be answered. After the independence of the country, the number of members increased slightly according to the census
- The present number of MPs is as per 1971 census (56 crore). After that no change was made in the number of MPs
- In terms of population, South Indian states grew slowly and some North Indian states grew faster
- It is this disparity rate that is stumbling for constituency restructuring
- Population control programs gained momentum in India after the 1970s
- According to this, the South Indian states implemented the family planning program well. But except some states in North India, others have not shown interest in this scheme

### Postponement by Indira Gandhi

- If constituencies are realigned, the number of constituencies in North India will increase
- There was a declining trend in South India. A formal situation emerged where South Indian states that enforced population control were punished and North Indian states that did not were rewarded
- South Indian states opposed this. This was against Article 81 of the Constitution
- Hence the move to redefine constituencies and increase the number of seats according to population was abandoned in 1976
- The move was postponed by then Prime Minister Indira Gandhi for 25 years during the Emergency. Constitution Act 42 was amended for this purpose

### Vajpayee who followed Indira Gandhi

- In 2002, Vajpayee also had to follow Indira Gandhi. With a population of 102 crores in 2001, the South Indian states would be affected if constituencies were decided to reorganize accordingly.
- Therefore, in 2003, the Vajpayee Government's Constitutional Committee amended Article 84 and postponed the act until 2026, but in 2002, the Constituency Realignment Commission was set up and only the boundaries of the constituencies were changed without changing the total number of members in the Lok Sabha state assemblies.

### A growing difference

- According to 2011 census the population of the country is 121 crore. The census which was supposed to be held in 2021 has been postponed due to the corona pandemic.
- It may be launched after September this year. Although the rate of population growth in each state will be known only later, between 1971-2011 Uttar Pradesh's population increased by 138 percent and Rajasthan by 166 percent.
- But the data points to an increase of 75% in Tamil Nadu and only 56% in Kerala. There is a huge difference between the major states.
- A woman having a birth rate of 2.1 means that the population is starting to level off. States like Andhra Pradesh, Kerala, Tamil Nadu, Punjab, West Bengal and Himachal Pradesh have reached that stage.
- But this ratio is 3.2 in Bihar and 3 in Uttar Pradesh. Given the imbalance between 1971-2011, the question naturally arises as to what has changed in the last 12 years.
- In the context of this agreement, the possibility of constituency realignment to the disadvantage of South Indian states is high.

### An easy task?

- Alistair McMillan recorded that 647 Lok Sabha constituencies should have been created as per the 2001 census.
- His calculation said that Tamil Nadu had 39 constituencies then. This is another example where states like Tamilnadu will suffer. The Census to be held in 2023-24 will play an important role in deciding this matter. This census will determine whether the provision referred to in Article 81 is feasible
- In today's environment Tamil Nadu has an average of one Lok Sabha member for every 15 lakh people. It is 25 lakhs in Uttar Pradesh.
- The long pending Constituency realignment must definitely be resolved. But what is certain is that it will not be as easy as the reconstruction of 1952, 1963, and 1973.

## **Uniform Civil Code: Law Commission seeks new ideas**

- The Law Commission has decided to re-examine the need for a uniform civil code and seek the views of the public and religious bodies on the same.
- The Law Commission said that those interested can submit their comments within 30 days from the publication of the report

### Uniform Civil Code

- Different religions in the country follow their own religious laws. The BJP has been saying for years that they should be replaced by a common civil code that everyone can follow
- BJP is trying to bring the common civil law as a single law for the entire country regarding marriage, divorce, adoption and property rights for people belonging to all religions. It has both support and opposition
- The 21st Law Commission issued its advisory report in 2018.
- More than three years have passed since the publication of this report of the 21st Law Commission and in view of the various court orders on the issue, the present 22nd Law Commission has decided to seek fresh views on the necessity of a common civil law and the same from the public and religious bodies.
- As the tenure of the 22nd Law Commission has been extended by three years, it has started seeking public comments on the recommendation of the Union Law Ministry.



## Why the re-consultation on the Uniform Civil Code?

- The Central Law Commission has again sought views on the implementation of the Uniform Civil Code across the country
- In this regard, public and religious organizations can register their opinion within 30 days

### Disputation

- In 2016, the 21st Law Commission deliberated on the matter and sought the views of various parties and submitted its advisory report on 31 August 2018.
- In its report headed by retired Justice B. S. Chauhan, the Law Commission said, "The foundation of our country is to cherish various social and cultural differences."
- The commission looked into discriminatory laws. It was stated that there is no need for a Uniform Civil Code in the present situation and there is no situation for it
- Diversity in our country should not be taken as discrimination. It is also a sign of a strong democracy, the report said
- Article 44 of the Constitution deals with Uniform Civil Code
- This Article ensures the achievement of the objective of a secular democratic republic as stated in the Preamble of the Constitution

### Uniform Civil Code

- According to this Act, it is stated that the Central Government should ensure Uniform Civil Code for all people across the country without any discrimination.
- It is against the unity of the country that people belonging to many religions and sects follow different personal laws in cases of matters like marriage and property
- The Uniform Civil Code covers many personal laws such as marriage, divorce, alimony, custody and maintenance of children, family property, and adoption.
- Article 44 of the Constitution seeks to replace the existing various personal laws and bring all people together on a common platform
- According to the Constitution, Parliament has the power to enact the laws of the country
- Court cannot pass any order in this matter
- Whether or not the Uniform Civil Code should be enforced will be decided by the Parliament consisting of representatives elected by the people.
- The implementation of the Uniform Civil Code will be studied in detail through the existing 22nd Law Commission
- Based on this, the 22nd Law Commission has now sought the views of the public and religious organizations

## What are the powers of anti-corruption enforcement department?

### Central Enforcement Department

- The Central Enforcement Directorate was created in 1956 to prevent and take action against economic crimes and foreign exchange offenses across the country.
- It started functioning as a national organization under the Department of Economic Affairs of the Central Government
- An officer knowledgeable in law was appointed to head its office in Delhi and two officers from the Reserve Bank were deputed to assist him.

- Along with this, 3 inspectors of the Special Police Division were also on duty
- At present this division functions under the Department of Finance and Revenue

### **5 tasks**

- Prevention of Money Laundering Act 2002
- Foreign Exchange Management Act 1999
- Fugitive Economic Offenders Act 2018
- Foreign Exchange Regulation Act 1973
- COFEPOSA Act

### **PMLA**

- This Act has been implemented in India and many countries around the world due to international decisions
- It was only after major sections were included that politicians started getting caught
- 5096 cases were reported under three Acts namely PMLA, FEMA, FEOA. Of these MPs, MLAs, and MLCs accounted for 2.98% cases (176).
- Sukhrum, who was the telecom minister in the Congress regime, is the first politician to be convicted in the Enforcement Directorate case
- Sukhrum, who was a member of the then Prime Minister Narasimha Rao's cabinet, was sentenced to three years in prison

### **Prevention of Money Laundering Act 2002**

- The Act was introduced in 2002 but came into force only in 2005
- A conviction under this Act carries a minimum jail term of three years and a maximum of seven years
- A drug-related offense carries a maximum jail term of 10 years and a fine. Also, related assets will be confiscated

### **What is the purpose of the law?**

- Preventing the laundering of illegal black money
- Prevention of use of money for illegal activities and economic crimes
- Confiscation of assets purchased with fraudulent money or assets used in money laundering transactions
- Penalty for money laundering offences

### **Illegal cash transactions**

- Hawala, real estate, gambling, investment in fake companies are used to launder illegal money.
- If a person is involved in such activities and conceals it, receives such money, directly or indirectly engages in or attempts to engage in the crime, it is considered illegal money transaction offences.

### **Powerful enforcement department**

- The Enforcement Directorate was created in May 1956. It is the body empowered to enforce the Foreign Exchange Management Act, 1999 and the Prevention of Money Laundering Act, 2002. Later renamed as Directorate of Enforcement
- Its administrative powers were transferred from the Department of Economic Affairs to the Department of Revenue in 1960
- Later administered by Department of Personnel and Administrative Reforms. Currently under the control of the Ministry of Finance



### A case cannot be filed voluntarily

- The enforcement department cannot voluntarily register a case. The enforcement department can register a case and conduct an investigation only if a complaint has been lodged against the concerned person in other investigative bodies
- Most of these cases will be heard in a special court under the Prevention of Money Laundering Act
- Generally, a charge sheet must be filed within 60 days of arrest
- But it is to be noted that in many cases the charge sheets are not filed within this deadline

### Who is responsible for proving guilt?

- Usually when someone is prosecuted for criminal acts, it is the perpetrators who have to prove them with evidence
- In case of money laundering, the onus is on the accused to prove his innocence
- Due to this, it is said that many people involved in this case are unable to recover

### Auditors within the scope of law

- They have been brought under the PMLA Act under five financial transactions
- Buying and selling of immovable property for their clients; managing client's money, shares or other movable assets; managing customers' bank accounts, savings or share accounts; Managing the client's company; Being a limited partner and buying and selling trading companies for clients. It is the duty of the auditors to report on the above five activities

### A case under Sec

- The Central Crime Branch Police registered a case against Senthil Balaji under sections 420 and 406 of the Indian Penal Code.
- Based on this case, the enforcement department has registered a case under Prevention of Money Laundering Act 3

## **State-of-the-art drone from America**

- Our Ministry of Defense has approved the purchase of MQ-9 Predator drones from the United States, which are widely used for surveillance and attack operations by the armies of the superpowers.

### Surveillance

- Predator drones are the only ones equipped with advanced technologies to fly in the sky and carry out intensive surveillance and reconnaissance operations as well as attack.
- These types of drones are widely used in the armies of many superpowers, including the United States
- These types of drones can be used to track and predict enemy targets with high precision, and carry weapons to target them.
- These types of US-made drones are making a huge contribution to the country's military
- Even in our country, the Central Military Research and Development Organization (DRDO) is already working on the domestic production of mid-range drones for use by the three armed forces.

### Threat

- A few years ago, the purchase of this type of Predator drones was planned as the threats from our neighbor China increased
- MQ-9 Predator drones were planned to be bought
- Granted formal approval to purchase MQ-9 Predator drones. The value of this contract is Rs 24000 crore

- According to this agreement, the Navy will get the maximum number of drones

## Courts cannot make law

- The power to enact laws is vested only in the legislative parliamentary bodies
- Courts can decide whether the law so enacted is constitutional or not
- But courts cannot legislate. It is important to keep this in mind
- Parliament and Legislatures are where laws or programs are decided. This should be implemented by government officials
- If anyone violates these procedures, they can go to court against it. The court should give a speedy solution to the same.

## Election Commission investigation

- In the case related to the appointment of Election Commissioners, the Constitution Bench of the Supreme Court has recently ruled that Parliament should enact a law in line with the appointment of the Chief Election Commissioner and Election Commissioners by the President as per the recommendation of a committee consisting of the Prime Minister, the Leader of the Opposition and the Chief Justice of the Supreme Court. It ordered that a committee of three should be constituted to select the commissioners until such time as the law is enacted. This order caused great controversy.

## Minister without portfolio

- It has been announced that Senthil Balaji will continue as a minister without portfolio in the Tamil Nadu cabinet led by Chief Minister M K Stalin.

## No responsibility... Have rights...

- A non-portfolio minister is a member of the cabinet who does not head any ministry and is not responsible for any department.
- A non-portfolio minister has all the rights and privileges of a minister, including remuneration, participation in cabinet meetings and voting.
- Clause 3 of Article 166 of the Constitution of India states that "the Governor may make rules for the convenience of day-to-day operations of the State Government, allocation of portfolios to Ministers".
- It is on this basis that a member of the legislature is allowed to continue as a minister without any portfolio

## So far in India

- In 1950, Rajaji was appointed Minister without Portfolio in the Cabinet headed by Prime Minister Jawaharlal Nehru. Later, he became the Home Minister
- In 1956 VK Krishnamenon was appointed Minister without portfolio and became Defense Minister in 1957.
- TT Krishnamachari, appointed as Minister without portfolio in 1962, was later made Finance Minister
- In 1964, Lal Bahadur Shastri was appointed as Minister without portfolio and became Prime Minister after Nehru's death.

## Corruption case and ministership

- Only a person convicted by a court of law is disqualified from continuing as a member of the legislature. Then he cannot continue as a minister
- Before such disqualification there is no legal requirement that a person facing corruption charges must be removed from the Cabinet.

## Attempts by the court

- In 2014, a Constitution Bench of the Supreme Court headed by then Chief Justice RM Lodha said that those facing corruption cases should not be made ministers.
- But no law has been laid down for this. The judges emphasized the expectation that Prime Ministers and Chief Ministers should act on moral grounds with constitutional responsibility in appointing ministers.
- In 2016, a Supreme Court bench headed by Justice Ranjan Gogoi in a corruption case against a member of the Legislative Assembly recommended to the constitutional body to deliberate and decide on the disqualification of the member once the charge sheet is filed instead of waiting for a court verdict.
- These efforts by the Supreme Court to prevent those accused of corruption from continuing as ministers are noteworthy

## India-US relations

### General Electric

- India's state-owned Hindustan Aeronautical's technology collaboration with American General Electric for the production of fighter jet engines is noteworthy.
- Jet engine technology is a closely guarded secret
- Apart from the US, Britain, France and Russia are the only countries that have that technology
- With this agreement, the US is ready to open up its technological secrets to India
- The agreements between India and the US in many fields such as quantum computing, artificial intelligence, space exploration, defense, robotics, 5G and 6G technologies have left the world in awe.
- The United States has never entered into such agreements with any country that is not part of its military alliance
- It is Prime Minister Narendra Modi's achievement to get that technical assistance from the US without establishing such a relationship.

### China

- America needs India to keep China in check and create another power in Asia to compete with it
- It was with the help of American companies that China improved its technology and became a major manufacturing powerhouse
- Starting with semiconductors, it became the center where the production of basic requirements for all manufacturing took place
- Like America needs India, India needs America's help. Russia's old technology is failing in Ukraine
- After the 2020 Galwan attack, India cannot afford to be complacent in its defence. Following the war in Ukraine, we cannot rely on Russia to be constrained by its logistical needs
- It should also be noted that the Russian economy is faltering
- Russia has recently become increasingly dependent on China after Western economic sanctions. Russia will not come forward to help India at this stage
- In such an environment, it is not surprising that India has chosen America as a reliable partner
- Through it, India seeks to strengthen its military, economic and technological development.

## The right way to restore Manipur

### Cause of Manipur riots

- There is no doubt that separatist politics is responsible for the human tragedy and social unrest facing Manipur.
- But confusion over ethnographic terminology, inadequacy of data on the origins of different communities, and lack of scientific censuses have also contributed to this crisis.

## HC Verdict

- A High Court order in favor of the Meitei community's demand for recognition as a Scheduled Tribe has sparked violent clashes and bloodshed in Manipur.
- The demand by the Meitei community and the strong opposition to it by communities already recognized as Scheduled Tribes are strongly associated with the hill-valley divide in Manipur state and the confusion over who the Meitei community is.

## A land of many communities

- Meitei is a term widely used to refer to the people of Manipur
- Manipuri is the most spoken language in this state. This is the official language of the state government
- It is also a language recognized as one of the Scheduled languages in the Eighth Schedule of the Constitution of India
- But the language is also spoken outside Manipur, i.e. in other northeastern states including Assam, Tripura, West Bengal and neighboring countries of Myanmar and Bangladesh.
- The resulting semantic confusion creates an image of all Manipuri speaking communities as Meitei
- According to the Institute of Folk Linguistics of India's publication, "Languages of Manipur: An Introduction", Manipur is by its very nature multi-lingual, multi-ethnic, multi-cultural.
- The valley region is divided into 4 administrative districts namely Bishnupur, Imphal East, Imphal West and Thoubal.
- The hill region is divided into 5 administrative districts namely Chandel, Churachandpur, Senapati, Tamenglong and Ukhrul.
- Covering an area of 22,327 square kilometers, the state is home to more than 30 communities speaking different languages and following different cultures.

## Ethnic groups of Manipur

- The state is primarily inhabited by Meiteis, Kukis and Nagas
- All three groups belong to the Tibeto-Burmese language groups
- But if we look more closely, we can see speakers of Austro-Asiatic languages in Jirbum, a sub-division of Imphal district, Dravidian speakers in Moreh, a town along the international border in Chandel district, primarily in Imphal, the capital city, and Indo-Aryan speakers in different parts of the state.
- Within Manipur, Manipuri is spoken in different colloquials depending on the region where the people live. This difference in colloquialism is understandable to all

## Background of conflicts

- It would be helpful to compare the situation of Manipur with Maharashtra for other states to understand
- The Marathas are a general community comprising several sub-castes and ethnic groups. Apart from this, in cultural texts, especially during the colonial period, Maratha and Maharashtra have been used to mean the same thing.
- But everyone has an understanding that not all Maharashtrians are Marathas and not all Marathi speaking people belong to the Maratha community.
- The demand for the Meitei community to be recognized as a Scheduled Tribe is comparable to the Maratha Kranti Morcha's demand for reservation for the Marathas in Maharashtra or the movement for reservation for the Jat community in Rajasthan.
- The All Tribal Students Union of Manipur held a protest rally against the demand. That's when the clashes broke out
- The government authorities did not do anything to control it or rectify the situation



## Population census

- If the government was really interested in the socio-economic development of the majority community, it would have conducted a state-level community census, a long-delayed initiative.
- Due to the lack of proper census, the dreams, beliefs, feelings, language traditions, social identities of the people of Manipur are being misused by the politicians for their own profit.
- Manipur has long been a territory under strict military control
- Proud of their cultural traditions with a strong independence spirit, these people have waged long struggles against the imposition of the Central Government's whims on them.
- A scientific census will help the future state administration to properly assess the needs of the various ethno-linguistic communities of Manipur.
- Manipur is facing the biggest humanitarian disaster at this moment
- What all the victims need now is comfort, care and attention, irrespective of race, language and religion
- But in the long run there is no need to officialize police and military surveillance in Manipur
- What is needed is a government that understands that it is the constitutional duty of every government to ensure proper sociological understanding and inclusive development for all
- Rather divisive politics will lead the beautiful state to further suffering, pain and conflicts

## The Wagner Rebellion

- The Wagner Group, a private military force fighting on behalf of Russia in Ukraine, launched a mutiny against Russia on June 23.
- Yevgeny Prigozhin, head of the Wagner Group, demanded that the Russian government sack both Defense Minister Sergei Shoigu and the head of state armed forces, Valery Gerasimov.
- Prigozhin released a video saying Wagner's group had captured the southern Russian military headquarters in the city of Rostov-on-Don, about 100 kilometers from the Ukrainian border.
- Insisting on their condition, Wagner's group marched armed towards the capital, Moscow
- Prigozhin then announced that he would abandon the rebellion he had started in order to avoid bloodshed in Russia
- It has also been reported that the tension has been eased through an agreement brought about by the intervention of Belarus President Aleksandr Lukashenko
- But the short-lived insurgency has drawn attention to Russia's private military groups

## Private Army

- Before getting to know about the Wagner group it is necessary to know about private armies and their place in Russia
- After the Cold War period, private security companies and private military companies began to increase in countries around the world
- Governments are using their services directly and indirectly
- In the 21st century, private military companies have been involved in wars in Afghanistan and Iraq at almost every level, from providing logistics to armed attacks on the enemy.
- In post-Soviet Russia, domestic military resistance and economic crises have prevented the penetration of private military firms
- To date, Russian law does not allow the establishment of private military companies on Russian soil

- But private military companies began operating in Russia in the late 1990s, taking advantage of loopholes in the law
- Private military companies operating in Russia gained global attention in the 2010s as a result of Russian participation in the wars in Syria and Ukraine.
- They are registered in other countries and operate in Russia employing citizens of that country

### **Shadow Forces**

- Since the Soviet era, Russia has had a history of sending its shadow troops to other countries at war
- For example, during the Second Sino-Japanese War in 1937, members of the Soviet Volunteer Corps were members of the Soviet Air Force.
- Russia uses private military companies as a covert tool or shadow force to infiltrate other countries
- This way it can deny to the world that Russian troops are not stationed there
- On the other hand, the Russian government uses private military services to limit criticism at home about the loss of Russian soldiers' lives due to the deployment of military forces abroad.
- In 2012, when asked about a plan to create a network of private military companies in Russia, then-Prime Minister Vladimir Putin said he was in favor of it.

### **Origins of the Wagner group**

- Dmitry Utkin, an officer who served in the Russian army until 2013, has left the army
- He was in contact with the Russian military, enlisted in Hong Kong and joined the Salvation Army, which supported the government in the Syrian war.
- In 2014 he left and started the Wagner Group
- Wagner was the name used to identify Utkin in the military
- That year, Wagner's group participated in Russia's military operations in Ukraine
- Yevgeny Prigozhin, a confidant of Russian President Putin and a big businessman, has long been credited with starting the Wagner Group, but only admitted it in 2022.
- Wagner Group is not a legal entity as it is not registered in Russia or other countries
- But the Russian government allows it to operate and supports its activities in many ways
- The combat equipment of the Russian army is provided to this group. It operates as a private military company backed by the Putin government
- On February 24, 2022, Russia declared war on Ukraine. The Wagner Group is playing a significant role in this battle

### **Factors that led to the rebellion**

- The conflict between the Wagner Group and the Russian Ministry of Defense has intensified since the start of the Ukraine war
- Yevgeny Prigozhin openly accuses the Ministry of Defense of corruption and incompetence
- Wagner blamed inaction by the Ministry of Defense for the heavy losses that the Wagner Group suffered in the battle to capture the city of Bakhmut in Ukraine.
- Within days of Wagner's successful capture of Bakhmut, the minister informed Shoigu that all of Russia's paramilitary forces would sign an agreement with the Ministry of Defense.
- Prigozhin sees this as an attempt to break up the Wagner group
- Thus began the spark for a rebellion that was feared to explode into civil war in Russia

# Science & Technology

## Agni-1 missile test success

- Medium Range Agni-1 Ballistic Missile successfully test-fired at Odisha's APJ Abdul Kalam Island
- India successfully test-fired Agni-5 ballistic missile with a range of 5000 km carrying nuclear warheads.
- Agni 1 to Agni 4 missiles have a range of 700 km to 3500 km.

## Sepsis

- The disease causes the body's immune system to become resistant to infection
- This will make the infection worse. Diffusion will accelerate. During this effect the function of the body organs deteriorates. This requires immediate intensive medical treatment
- If left untreated, sepsis can progress to septic shock. Septic shock is a severe form of sepsis. Even the final stage
- During septic shock, organs including lungs, kidneys, and liver are damaged. Blood pressure will also drop tremendously. This effect can be fatal when severe

### Symptoms of Sepsis

- A change in temper
- Rapid breathing
- Incomplete breathing
- Sweating for no reason
- Sensation of lightheadedness
- Shivering
- Irritation or pain when urinating
- Severe cough

### Symptoms of septic shock

- Unable to even stand up
- Difficulty falling asleep or staying awake
- Extreme mood swings
- Severe mental confusion

### Reasons

- Any type of infection can cause sepsis. This includes bacterial, viral and fungal infections
- Infections of the lungs such as pneumonia
- Infections of the kidneys, bladder, and other parts of the urinary system
- An infection in the digestive system
- Blood stream infection
- Infection at the implant site

- Chronic wounds
- Burns

### **To whom it may occur**

- Those undergoing cancer treatment
- People infected with HIV
- People with low immunity
- People suffering from chronic diseases like diabetes, kidney disease or copd
- Those admitted to the intensive care unit
- Long-term hospital stays
- Those receiving antibiotic treatment for more than 90 days

### **Dangers**

- When sepsis worsens, vital organs such as the brain, heart, and kidneys do not get enough blood
- Sepsis can cause abnormal blood clotting. The resulting small blood clots or blood vessel bursts can scar or destroy tissue
- The reality is that most patients recover from mild sepsis. It is only in case of septic shock that it leads the patient to critical stage

### **Treatment**

- People with sepsis will need treatment in a hospital's intensive care unit
- Lifesaving measures may be required to ensure breathing and cardiac function
- There is no doubt that sepsis is a dangerous condition. However, treating the condition thoroughly at an early stage can reduce the severity of the condition. Increases the body's chance of recovery. Avoiding the risk of death

## **Non-Communicable diseases**

- Today's modern medical science has increased the average human life expectancy from 66 years to 73 years
- 14 crore people are born every year. Six crore people die. 74% of these deaths are due to Non-Communicable diseases
- About two crore of them die before reaching the age of 70
- Deaths are increasing due to Non-Communicable diseases. It is important to note that we can avoid these deaths
- Many of these deaths could have been avoided if awareness of non-communicable diseases and proper treatment had been available at an early stage

### **Non-Communicable**

- Non-communicable diseases are diseases that are not caused by microorganisms such as bacteria, viruses, fungi that enter us from the outside
- It is a disease caused by the damage that occurs in our body
- This disease is not spread from one person to another. However, it is possible for us to get these diseases through heredity
- Also known as chronic diseases, the effects of these infectious diseases last for a long time. Some of these may last a lifetime

### **Factors**

- Genetics





- Physiological changes
- Environment
- Lifestyle changes
- Tobacco use
- Alcoholism
- Unhealthy diet
- Consumption of harmful food products
- Tobacco use alone causes more than 80 lakh deaths every year
- 30 lakh people die every year due to alcoholism. As if these were not enough, about 20 lakh people die due to excessive salt or sodium intake in the body
- These data show us how important it is to take proper care of health, good habits and control

### **Four dangerous diseases**

- Heart diseases
- Cancers
- Diabetics
- Respiratory diseases
- Almost two crore people die of heart diseases every year. Next to this, about one crore deaths occur annually due to cancer, about 40 lakh deaths due to respiratory diseases and about 20 lakh deaths due to diabetes.

### **Metabolic risk factors**

- High blood pressure
- Overweight and obesity
- Hyperglycemia (High blood sugar)
- Hyperlipidemia (High levels of fat in the blood)

### **Socioeconomic impact**

- Non-communicable diseases affect people in lower-middle-income countries more than economically advanced countries
- 75% of deaths from non-communicable diseases worldwide occur in these countries
- Non-communicable diseases are closely related to poverty. The spread of non-communicable diseases is also rapid in low-income countries
- This hinders the poverty reduction efforts of those countries. In particular, rising medical costs push those living in poverty further into poverty
- It is in this environment that people between the ages of 30 and 70 are dying due to four major diseases
- It doesn't just affect an individual family. The impact of that loss will reverberate throughout the nation's development

### **Non-communicable diseases**

- Heart diseases
- Paralysis
- Cancers
- Asthma

- Lung damage
- Chronic respiratory diseases
- Diabetes
- Effects on the newborn
- Alzheimer's, Dementia
- Diarrheal diseases
- Kidney diseases
- Psychiatric effects
- High blood pressure

### **How to prevent ?**

- An important way to control infectious diseases is to focus on reducing the risk factors associated with them
- Proper diagnosis, periodic screening and appropriate treatment can help prevent deaths from infectious diseases.
- To avoid Non-communicable diseases
  1. Healthy lifestyle changes
  2. A balanced diet with fruits & Vegetables
  3. Avoidance of tobacco use
  4. Stop drinking
  5. Exercise
  6. Adequate sleep
- Mainly, you should pay enough attention to four measurements namely body weight, blood sugar level, blood pressure and blood cholesterol
- It protects us from Non-communicable diseases. It also largely avoids the possibility of death

## **Kavach**

- Kavach technology is an automatic train collision avoidance system. The Kavach technology was developed by a research design and quality organization called RDSO.

### **Designing**

- To assist train drivers in spotting signals at times of danger. Automatic braking if the train drivers fail to act
- The kavach technology was designed to help during inclement weather such as dense fog.
- By automatically applying brakes when needed, the system controls the speed of trains and prevents accidents
- Also not allowed to exceed the prescribed speed of the train
- Trains automatically stop at a distance of 400 meters when two trains comes opposite to each other
- This technology is implemented by connecting the three railway track, train engine and signal

### **How it works?**

- Kavach technology is created by combining the train engine, railway track and signal. Accordingly, a small device will be installed in the train engine area

### **Will stop automatically**

- Early warning if there is any obstacle on the train track. Even if the driver acts in spite of that, the train will automatically stop 400 meters before the blocked area

- And chips are installed in the middle of the railway line every four kilometers. It will alert the train drivers about the accident.
- And the signals on that track will also be sent a signal to warn of the arrival of two trains on the same track.
- It also automatically controls train speed to reduce the chance of accidents.
- Implementation of this technology for one kilometer will cost up to Rs 50 lakh.

### Why did it take a detour?

#### Shalimar-Chennai Coromandel express

#### South Eastern Railway officials in extreme confusion

1. A freight train halted on an alternative route known as Loopline at Mahanagar Bazar Railway Station in Balasore District, Odisha.
2. Coromandel express train number 12841 from Shalimari, West Bengal to Chennai
3. A signal to go to Chennai was received and suddenly it was withdrawn. Subsequently, the Coromandel Express switched to the loop line
4. Coromandel Express coaches derailed after head-on collision with freight train
5. Yesvantpur-Howrah Express collides with scattered coaches of Coromandel Express.

### Nuclear-capable Agni Prime missile test-fired successfully

- The latest nuclear-capable Agni Prime missile was successfully test-fired last night
- Agni missiles have been developed for India's defense and are inducted into the army
- So far 1-5 Agni missiles with improved capability have been inducted into the Army
- Scientists are working on developing Agni-6 missile as the next step
- A new generation missile named Agni Prime has been developed to carry nuclear warheads by adding additional features to the technologies used in Agni missiles.
- DRDO conducted the experiment at APJ Abdul Kalam Island in Odisha waters.
- This missile can accurately hit and destroy a target at a distance of 1000 km to 2000 km
- It is also capable of carrying nuclear weapons
- Similarly, the Agni Prime missile can be launched from any location including rail and road
- Can be shipped instantly to any part of the country. The weight of Agni Prime missile is 50 percent less than that of Agni-3 missile
- The missile can be tracked and guided through sophisticated radars.

### Heart diseases

- Cardiovascular diseases account for the majority of deaths from non-communicable diseases
- Generally, the incidence of these diseases is higher after the age of 40 years

#### Types of heart diseases

#### Coronary artery disease

- Stress or anxiety that occurs at or before the age of 40 can increase the secretion of negative hormones in our body
- Due to this, insomnia, fear, tension, psychological crisis etc. will occur. These disrupt the stability of blood vessels
- Their walls gradually deteriorate and begin to crack.

- This can cause fatty deposits in the arteries of the heart. The buildup of plaques is called atherosclerosis
- This is similar to algae growth in stagnant water. Fatty deposits in the arteries of the heart reduce blood flow to the heart and other parts of the body
- This can lead to heart attack, chest pain or stroke

### **Symptoms**

- Chest pain, chest tightness
- Chest pressure, Chest discomfort
- shortness of breath
- Difficulty in breathing while walking
- Pain in the neck, jaw, throat, upper abdomen or back, legs or arms
- Numbness, weakness, coldness in the neck, jaw, throat, upper abdomen or back, legs or arms

### **Heart attack**

- Fat deposits from coronary artery disease can clog blood vessels in the arteries or other areas of the heart and cause blood clots.
- A heart attack is caused by blood clots blocking or narrowing the blood flow to the heart
- Three blood vessels go to the heart. A blockage in any of these three blood vessels is a very serious condition
- If there is a blockage in only one of the blood vessels, it can be cured by stenting with an angiogram.

### **Irregular heartbeat (Arrhythmia)**

- This is a condition where the heart rate goes above 90 or below 60
- Symptoms include chest pain or discomfort, fainting, palpitations, light-headedness, fast heartbeat, shortness of breath, slow heart rate.

### **Heart valve disease**

- This condition occurs when the valves of the heart do not work properly
- Valves in the heart ensure that blood flows in one direction. When these are affected, blood travels in the opposite direction
- It affects blood circulation in the body. Blood flow is also obstructed. Gouty fever is the main reason for this
- It can also be caused by birth defects or bacterial infection. Usually, this effect is more common in children
- Symptoms include chest pain, fainting, fatigue, irregular heartbeat, shortness of breath, and swelling in the feet or ankles.

### **Heart muscle disease (Cardiomyopathy)**

- In this the left ventricle becomes harder, larger or thicker than normal
- Due to this, the patient's heart weakens over time.
- The risk of heart failure increases as the heart loses its ability to pump blood properly and in the right amount. It can happen through inheritance
- It can also be caused by heart attacks, infections, cancer drugs, and poisoning
- This disease can be easily diagnosed by echo examination. Symptoms include dizziness, lightheadedness, fatigue, shortness of breath, irregular heart beats, swelling of the legs and feet.

## What to do?

- Check your numbers: Checking our body weight, blood sugar level, lipid level, blood pressure, blood cell count etc. at appropriate intervals and keeping it under control can avoid the risk to a large extent.
- Adequate sleep is essential (upto 7-9hours). Going to bed at the same time every day and waking up at the same time will improve the quality of sleep
- Eat whole foods instead of unhealthy, processed foods
- Practicing a happy mind, free from worry, can reduce stress
- Yoga meditation etc can help with this. Immediate attention is important for psychological problems. Seek counseling from a psychiatrist or counselor if needed and recover from it.

## Kavach Automatic Train Safety System

- On June 2, 275 people were died when three trains collided in Orissa's Balasore
- The accident, which is considered to be India's worst train accident in the last 20 years, has sparked discussions about the Kavach safety system implemented by the Indian Railways.

### Kavach to avoid accidents

- Kavach is an automated train safety system developed by the Research Design and Standards organization, a research arm of the Indian Railways
- It is a set of electronic equipment, radio frequency equipment installed in train engine, track and signal.
- The ultimate goal of this system is to completely avoid train accidents and achieve zero accident deaths
- Failure of train drivers to stop at signals is the primary cause of train collisions.
- In this case, Kavach acts as a mechanism to prevent the train from colliding with another train if a train driver ignores the signal and drives away.
- When the train driver goes without stopping at the signal, the alarm sounds. If another train is approaching within a specified distance on the same track, the brakes of the train are immediately brought under the control of the Kavach system and the train is stopped.
- It also has provisions for the train's rack system to automatically operate and bring the train's speed up to the permissible limit if the train drivers fail to follow the rules related to speed control.
- When a train approaches a railway level crossing, a loud whistle is sounded to alert the driver to limit speed. Apart from these, it has many other security measures

### Cost?

- So far Rs 16.88 crore has been spent on developing and implementing the kavach system
- It is estimated that installing the kavach system on India's railways will cost around Rs 50 lakh per kilometer
- While many developed countries of the world spend up to Rs 2 crore on such technology, indigenously manufactured kavach has made this possible at a lower cost.
- The total railway track in India is about 68 thousand km. Based on this calculation, it is estimated that installing this system on tracks and trains across India would cost more than Rs 50,000 crore.

### Status in Implementation

- So far, the Railway Board has approved installation of kavach system on 34,000 km of railway track
- Kavach has been installed on 1445 km of railway line under the South Central Railway Zone covering the states of Telangana, Andhra Pradesh, Karnataka and Maharashtra so far.

- A test run on the route between Gullaguda-Chitgidda, Telangana on March 4, 2022, confirmed that the security arrangements of kavach were operational and beneficial.
- By March 2024, India's busiest rail lines, Delhi-Howrah and Delhi-Mumbai, are set to be fully equipped with this system.
- It is planned to extend this to another 4000-5000 km in FY 2024-25.

### **Is absence of kavach the cause of Odisha train accident?**

- Kavach system is not installed on railway line entering South Eastern Railway Zone which includes Odisha state
- For this, Rs 468.9 crore has been allocated in the budget. But there are media reports that this amount was never spent
- Union Railway Minister Ashwini Vaishnav has said that the absence of this system has nothing to do with the accident while opposition parties including the Congress are criticizing the government.
- The railway board also attributed the accident to a change in the "electronic interlocking signal" system
- The Railway Board also alleged that the change could have been a conspiracy due to human intervention

## **BrahMos missile is the Brahmastra of 21st century**

- India-Russia joint venture BrahMos missile launch ceremony
- BrahMos project proved to the world that India is the first country to have a supersonic missile
- Former President APJ Abdul Kalam, who was a key contributor to the India-Russia Military Technology Cooperation program, was the Chief Executive Officer of the BrahMos program and was called India's Missile Man, once said that the concept of the fifth country has been broken in this way.
- The joint venture program was launched on 12 February 1998 and the first BrahMos supersonic launch vehicle was successfully launched on 12 June 2001.
- BrahMos Missile is the Brahmastra of 21st century, only strong country in democracy can promote peace
- BrahMos is a powerful weapon that has empowered India to promote peace in the world
- Sivathanupillai had the foresight to spearhead the joint venture project
- He is one of the best leaders we have ever had. If BrahMos stands today as a pillar, Sivathanupillai is that pillar, he praised

## **Chikungunya: Discovery of a safe single-dose vaccine**

- A single-dose VLA1553 vaccine was found to be safe for the disease, a Lancet Journal clinical study reported.
- The incidence of mosquito-borne chikungunya disease is increasing in various parts of Africa, Asia, and the America

### **Symptoms**

- Patients with chikungunya may experience headache, fatigue, vomiting, severe muscle and joint pain, and severe fever for four to eight days
- Some people have joint pain that persists for weeks, months, or years
- Although the death rate from the disease is not high, it poses a serious threat to the elderly and infants
- There is currently no approved vaccine or immune-boosting treatment for Chikungunya

## Vaccine

- Medical experts say that the VLA1553 vaccine, which has now been discovered for the first time, will be very useful for people living in and traveling to countries where the incidence of chikungunya has increased.
- Martina Schneider, manager of the VLA1553 vaccine company, said that after administration of the vaccine, the immunity is improved to a great extent, and if there is a sudden outbreak of chikungunya, this vaccine can be used to control it.
- Martina Schneider, manager of the VLA1553 vaccine company, said that the vaccine improves immunity after administration and can be used to control it if there is a sudden outbreak of chikungunya and that the vaccine improves immunity in the elderly.
- Chikungunya vaccine can be administered to people with weakened immune systems, pregnant women and children

## Artificial intelligence : Information workers getting exploited

- Many artificial intelligence based software like ChatGPT, DALL-E, Midjourney etc. have come into use
- Companies that have introduced this have started making profits by charging monthly fees from people
- But behind these artificial intelligence software to run successfully and safely is the work of thousands of employees
- They are called informants
- It is a sad fact that artificial intelligence software is created by exploiting the labor of data loggers.

### How does it work?

- Artificial intelligence software does not run by itself
- When you ask ChatGPT a question, it gives you the correct answer. In order to give the correct answer like this, it should be trained by giving lakhs of information, news and hints
- If you give some cues and task the artificial intelligence to draw a picture, it will draw a new picture in seconds
- Behind this functionality is the 'label' mechanism. This means that all information about the image, its colors and shapes are entered by humans
- That means it will be labeled. These people who are involved in the labeling process are called informants
- Artificial intelligence doesn't always give the right answer. Since humans often check and confirm the accuracy of answers provided by artificial intelligence from learning, software improves its learning.
- It is the informants who do this job

### Full human assistance

- If artificial intelligence software provides dangerous, illegal information, it should be removed
- No artificial intelligence software has yet been developed to perform these tasks
- It is worth noting that artificial intelligence works best if there is full human interaction in information verification

### Low wages

- It's really exciting that artificial intelligence has created so many new types of tasks
- Many companies have become accustomed to exploiting these workers by underpaying them
- Most of these jobs can be done from home. As a result, women who stay at home, students, unemployed graduates are more involved in these jobs
- They pay around 100 to 150 Indian rupees for an hour's work

- Must work at least 4 hours to 8 hours a day. Companies install software on employees' computers to ensure that only these tasks are performed during working hours.

### **Necessity of Regulation**

- There is no problem with the technology of artificial intelligence. It's in the way of using it
- If used properly, it can bring many benefits to mankind
- But the biggest danger is the big companies that own the technology, says social activist Naomi Klein.
- These companies, which have announced various monthly payment plans for using artificial intelligence software, do not want to pay per-work to the employees who provide the backbone for it.
- These companies have no qualms about squeezing users and collecting fees on the one hand and on the other side exploiting their employees by laying off their workers. India needs to develop ethical and legal protections for these artificial intelligence operations. It is the imperative of time.

### **Will Betelgeuse explode?**

- A Swiss-Japanese joint research team including Indian research student Devesh Natal has recently announced that the pulsation of the Tiruvadhirai (Betelgeuse) star will explode in a few decades.
- Although this caused a stir, the decision was vehemently denied by another group consisting of László Molnar and Meredith Joyce.

### **A Rare sight**

- A starburst event occurs in the Milky Way at a rate of about once every 50 years
- It can only be seen through telescopes. About 500-600 light-years away, the Tiruvadhirai star is a red giant. At the end of the red giant stage, a star explodes
- This nearby star, Tiruvadhirai, will be as bright as a few billion suns when it explodes as a supernova
- Johannes Kepler had earlier discovered a star that exploded in 1604 AD.

### **Contradiction**

- Hydrogen, which is abundant in the universe, is even more concentrated when a star is born. Gravitational force due to its own mass presses and compresses the star
- Just as the weight of a pack on our head can destabilize us, so a star can destabilize under the force of gravity alone.
- But that gravitational force produces another force that acts against itself. As a result of gravitational pressure, thermal energy accumulates at the core and at some point hydrogen atoms fuse to form helium.
- The heat energy produced by this reaction supports the gravitational pull and holds the star together.

### **A red giant star**

- At a certain point, when the concentration of helium in the core increases and the stock of hydrogen decreases, the fusion reaction ceases.
- Since there is no resistance, the gravity is lifted and the center contracts again
- The top of the star inflates and expands. This is the red giant stage
- Stars like Tiruvadhirai take a few million years from their birth to reach this stage
- At a certain pressure, helium begins to form in stars that are born when hydrogen forms first
- Helium combines to form carbon. Again energy is produced in the stars. This is the next step
- At some point the helium will also run out. Then there will be only carbon atom in the center. All we know at these levels is a red giant star





- Massive stars like Thiruvadhirai are different from the Sun. In massive stars, carbon binds under the pressure of gravity to form neon, then iron, one by one in the periodic table.
- At this stage the structure of the star is like an onion

### Sign of death

- Energy is released when elements up to iron bond in the final state. Elements after iron absorb energy when bonded
- So once the iron state is formed there will be nothing against gravity
- The star will collapse momentarily as gravity takes over. A neutron star or black hole will form at the center
- The resulting blast wave spreads and the top of the star explodes and scatters into space.
- This is called a supernova
- On that account it would emit billions of times as much energy as the Sun. In stars like Tiruvadhirai, the hydrogen bond lasts for a few crore years, while the helium bond lasts only about 10 million years.
- The iron level is not even for a quarter of a second. A super nova explosion will occur in no time.
- So even though the bond extends to iron, in stars like Tiruvadhirai, if the end of the carbon bond state occurs, it is a sign of death.
- The pulse of Tiruvadhirai consists of four pendulums which oscillate once every 2190, 417, 230, 185 days.
- About 11 times the mass of the Sun and 1300 times the inflation rate, the galaxy is in the final phase of the carbon phase if it has 4 periods of 2190, 417, 230, and 185 days.

### Will it continue to exist?

- Tiruvadhirai will live for ten thousand to lakh years
- Various studies suggest that its distance may be between 550 light years and 730 light years.
- Due to uncertainty about Tiruvadhirai's distance, it is estimated that its luminosity may be 90,000 to 1,50,000 times that of the Sun.
- Based on distance and luminosity, it is 600 to 1000 times as massive as the Sun
- Whatever it is, Tiruvadhirai is sure to explode. The conundrum is whether we will get a chance to see the celestial spectacle during our lifetime or whether it will take a few thousand years.

## Cancer

### Uncontrollable proliferation

- Normally, after the cells of our body grow, they are doubled by the process of cell division to form new cells needed by the body
- These new cells mature or degenerate over time and die. New cells will be formed in their place. The formation and destruction of new cells is a natural phenomenon in our body
- But in cancer, certain types of cells in body parts grow and multiply uncontrollably. It will soon start spreading to nearby tissues
- This proliferation inhibits the normal cell division process of the cells there
- This means that the normal cell proliferation of the cells in the affected area is inhibited and the cancer cells start to spread rapidly in that area
- Thus, cancer is a condition in which cells of the body break down profusely in some part and multiply and spread uncontrollably to other parts of the body.

### Where does it occur?

- Cancerous tumors can form anywhere in the body. Mouth, nose, throat, stomach, esophagus, intestines, liver, lungs, cervix, brain, blood, skin are no exception to this.
- Breast cancer, cervical cancer, oral cancer, colorectal cancer are prominent

### Factors

- Hereditary transmission is a primary cause of cancer. Next are tobacco, smoking, alcohol consumption, intoxicants like paan-gudka, betel nut habit with tobacco etc.

### Stages

- It has five stages depending on the nature of the cancer tumors
- Stage 0 : Cancer cells may not develop
- Stage I : Early stage of cancer. A small number of cancer cells are formed.
- Stage II : Cancer cells grow larger than in the first stage. But it may not spread to other areas
- Stage III : In this case, the cancer has spread to nearby areas
- Stage IV : In this case, the cancer has spread to other parts of the body

### Symptoms

- Prolonged fever
- Weakness
- Tiredness
- Tumor in the body
- Weight loss
- Persistent anaemia
- Persistent diarrhoea
- Blood in urine and stool
- Bleeding from the nose
- Chronic indigestion
- Difficulty swallowing food

### Treatment

- Chemotherapy
- Radiation therapy
- Targeted drug delivery
- Removal of tumour by surgery
- One or more of the following treatments following surgery
- Hormone therapy
- Immunotherapy
- Bone marrow or stem cell therapy
- Radiation therapy

05

# Tamil Society

## 11<sup>th</sup> World Tamil Research Conference

- The 11th World Tamil Research Conference is going to be held in Chennai
- It will be held at the Institute of Asian Studies in Semmancheri next to Chennai
- The central theme of this conference is that the Tamil language should spread all over the world
- This conference is organized to create awareness among the youth about Tamil language literature, Tamil culture and civilization
- More than 200 Tamil scholars, poets, writers, editors, translators and archaeologists from countries including Japan, South Korea, France and Germany are participating in this.
- Experts on various topics such as Tamil Antiquity, Tamil Culture, Tamil Literature, Archaeology, Epigraphy, Anthropology, Sociology, Transliteration, Linguistics are expected to address. A total of 200 research papers are to be submitted



**06**

# Indian Geography

## What will El Nino do to the world?

### El Nino

- It may seem that there is no direct connection between the South American ocean and the Indian monsoon
- The message of El Nino is that there is a very deep connection
- The El Nino Southern Oscillation is a series of periodic events in the eastern Pacific Ocean
- It has mainly two stages. One is the warm period known as El Nino. Another is the cold period known as La Nina
- There is also a period of balance between the two. The Southern Oscillation is a natural cycle. Winds along the Pacific Ocean are driven by changes in sea surface temperature, and this Southern Oscillation manifests as El Nino and La Nina every few years.
- This event in the South American Ocean has the potential to affect the climate around the world
- In particular, the average temperature and rainfall of the countries of the world depends on the southern Oscillation

### Impending vulnerability

- Excess heat added to the oceans due to global warming is altering the natural functions of this oscillation
- An Australian study published in 2020 confirmed that climate change has been affecting the Southern Oscillation since 1960.
- The research team notes that El Nino and La Nina periods are becoming more intense due to climate change
- A previous study predicted that direct changes in the Southern Oscillation due to climate change could take up to 2070.
- Current studies warn that these differences will reach as early as 2030
- Predictions that impacts could occur decades earlier than we expect are causing great concern among climatologists.
- Since 2020 we have been in a cold phase called La Nina. Although it was winter, the average temperature remained high due to the impact of climate change
- Especially during the summer, heat waves hit many countries. This shows how severe climate change has become
- But meteorologists are now warning that worse than the heat we've experienced in the last few years is yet to come.

### Extreme El Nino

- It is predicted that by the end of 2023, the La Nina period will end and the El Nino period will begin. This is called Super El Nino
- Fears of a severe El Nino have also been raised
- In an analysis based on seven global climate models, scientists have found that the likelihood of an extreme El Nino is high
- Science tells us that extreme weather events, floods, and climate disasters are more likely to occur during extreme El Nino periods

- Such extreme El Nino events occur when the average temperature of the Pacific Ocean rises by 3 to 4 degrees Celsius
- This is more likely to occur as the sea surface temperature increases every year.

### What is the impact on India?

- El Nino Southern Oscillation plays an important role in stabilizing India's Monsoon
- Southern Oscillation affects the Indian monsoon by altering the currents of the Indian Ocean and perturbing the atmospheric layers.
- Other factors such as the Indian Ocean Dipole Oscillation and temperature changes in the Atlantic Ocean also play a role.
- However, the Southern Oscillation contributes about 30% of the monsoon rainfall in a year
- Many studies have confirmed that monsoon rains are less especially during El Nino period
- In a 132-year study of Indian climate records, researchers say all El Nino periods have resulted in drought or famine in India.
- An extreme El Nino period can have various impacts such as death toll due to increase in temperature, increase in diseases, decrease in monsoon rains, decrease in fish supply in marine waters, problems in livestock and poultry farming due to scarcity of fodder, and threats to food security.

### Economic impact

- The El Nino phenomenon could cause economic damage of up to \$3 trillion by 2029, the research team predicts.
- Climate change has begun to affect all kinds of natural phenomena
- Countries around the world should focus on disaster preparedness, contingency plans, and climate control.
- If not, there will be huge consequences for each of us.

## Who owns lithium?

- Lithium is an element used to make batteries for electric cars and renewable energy systems
- The recent discovery of potentially significant lithium deposits in Jammu and Kashmir has drawn global attention
- Industry experts have said that this is conducive to India's development and security. At the same time, they have not dismissed concerns about the social and environmental impacts that this may cause

### Lithium Industry in India

- The electric vehicle industry in India is estimated to be valued at US\$ 38.35 crore in 2021 and is expected to increase to US\$ 15,221 crore by 2030.
- India imported 45 crore lithium batteries worth \$92.66 crore (Rs 6600 crore) in 2019-20.
- In this environment, finding lithium records in India itself becomes very important
- International political scientists predict that the world's current transition to low carbon emissions economies and the rapid spread of technologies including artificial intelligence and 5G will drastically change global regional geopolitics.
- They also say that which country has the most rare minerals, including lithium and cobalt, will play a major role in these changes.

### Who should have the minerals?

- In July 2013, the Supreme Court ruled that everything under the land belongs to the owner of the land
- However, large tracts of land in India, including forests, hills, and barren lands, remain state-owned

- The judgment also recalled that the Central Government can at any time prohibit private mining of important elements which need to be handled with utmost care.
- The Atomic Energy Act of 1962 prohibits private companies from mining uranium. Lithium is just as important as uranium

### **Lithium in other countries**

- Chile and Bolivia are two South American countries known to have the largest lithium deposits in the world
- Some governments have identified lithium as a strategic resource. Its discovery has been made the exclusive prerogative of the government
- The country has granted licenses to only two companies, SQM and Albemarle, to extract lithium mineral
- Chile's president Gabriel Boric announced a new "National Lithium Policy" in 2023
- The new policy also referred future lithium projects to public-private partnerships
- Through this, the government can control the environmental damage caused by lithium mining
- Revenues from mining lithium deposits can be fairly shared with indigenous communities
- The Chilean government believes it can encourage research into lithium-based green technologies
- The government led by the former president of Bolivia Evo Morales nationalized lithium
- It also took a strong stand against private & foreign participation. This is said to be the reason why the country is unable to produce commercially viable lithium nearly 20 years after nationalization.
- Bolivia's current president, Luis Arce, wants to change this situation. Instead of handing over lithium resources to the private sector, he is committed to working hand in hand with other Latin American countries to design a lithium policy that will benefit all of their economies.
- Mexican President Andrés Manuel Lopez Obrador nationalized lithium in February this year

### **What next?**

- India's ability to mine its lithium deposits will depend on the Indian government demonstrating a high level of efficiency to enable the sector to grow as it should.
- Mining of India's rare mineral resources has various objectives including social well-being, environment maintenance and national energy security.
- If all of this is to be accomplished it is imperative that the lithium sector is handled very carefully and effectively

## **Why ocean conservation is important?**

- In the biosphere, it is no exaggeration to say that the sea is the elixir of basic things like food and medicine for human life
- The ocean is an important source of protein for people around the world
- Marine plant forms and biomass have great medicinal properties

### **Ocean**

- Oceans and seas cover 70 percent of the Earth's surface
- Oceans produce most of the oxygen that humans breathe
- It feeds millions of people
- Regulates climate
- They are vital to the livelihoods and economies of thousands of fishing and coastal communities
- Despite this importance, oceans and their resources are under various threats



## Sea & Waste

- According to a report by the Food and Agriculture Organization of the United Nations, 30 percent of the world's marine resources are currently overexploited
- The report states that changes in the nature of the ocean are caused by pollution, overfishing, accidental death of species caught in drifting nets, and climate change.
- Every year 80 lakh tonnes of plastic waste ends up in the ocean
- About ten percent of this marine debris is discarded, cut or abandoned fishing nets and fishing gear known as ghost gear, according to a 2016 study.
- These waste nets pose a major threat to marine habitats and biodiversity, particularly coral reefs, sharks, turtles, whales, dugongs, and large fish.
- When a net is no longer usable, it does not mean that its use has ended when it is thrown into the sea
- Instead, these nets entangle everything in their path, harming the health and lives of marine life

## Methods of removal

- Discarded, abandoned fishing nets and gear at sea not only pose a challenge to fishermen and the fishing industry, but also have significant socio-economic impacts.
- These are hazards to boat maneuvering and safety at sea. Therefore, by preventing net litter from entering the sea and removing it from the sea, fisheries and marine resources can be protected.
- It can also reduce the economic loss caused by these nets to fishermen
- Strong policies, field-based coordinated efforts involving fishing communities and local panchayats are needed to address this problem.
- Human interventions and policies are the only solution to this problem

## Need awareness

- Ocean cleanup is one way to remove unwanted nets from the ocean
- And it needs to be implemented at different levels. It is important to develop and implement effective strategies to prevent pollution from marine gill nets in each of the fish handling areas and fishing ports.
- World Oceans Day is observed on June 8 every year
- On this day, it is our duty to raise awareness about the importance of maintaining ocean health and the need to protect marine life, which provides food and employment to millions of people.
- It's an appropriate day to think about how marine pollution and related issues affect the oceans—especially their health, marine life, and fisheries
- The support, effort and solidarity of each and every one of us is essential to maintain and sustain ocean health

## Marine Resources Development Department

- Marine Resource Development Department was formed in July 1981 in our country
- Our country is paying more attention to various tasks like maritime surveillance, marine resource management
- It also aims to seriously consider and delineate the north central boundaries of the Indian Ocean

## Special Economic Zone

- In 1982, the government announced its 15-point marine policy
- Our exclusive economic zone in Indian waters is approximately 22 lakh square kilometers

- This is called a Special economic zone.
- The policy includes tasks such as identifying and mapping marine biota resources, preparing a list of commercially viable plants, and estimating the amount of deep-sea minerals.

### The lungs of planet earth

- Generally cold undersea currents are favorable for organism production. The ocean produces 50 percent of the oxygen these organisms need
- Microorganisms such as phytoplankton and algae on the ocean surface absorb carbon dioxide from the air and carry out photosynthesis in sunlight to provide oxygen. So the ocean can be called the lungs of our planet earth
- Moreover, some fish breed in the warm undercurrents of 14 to 18 degrees Celsius. It is home to the Earth's biodiversity.
- A type of fish called 'Torpinidae', for self-defense, the muscles called electric screws in its head turn into electric plates and send electric pressure radiation to the enemies.
- Also the electric ray catfish which are widespread in tropical freshwaters of Nile Africa are rare in our country.
- Large species of fish have declined drastically. And 50 percent of coral reefs have been destroyed
- Naturally, we take too much from the ocean in a non-renewable way
- We must work together to create a new equilibrium with the ocean.

### Oceansat

- India has so far launched four satellites in the Oceansat series of Earth observation satellites dedicated to oceanographic and atmospheric studies.

## Satellite City

- A specific area to be developed with special focus on the basis of population is referred to as a satellite city
- Basic facilities such as roads, drinking water, sewage disposal, rain water canal, small bridges and lighting will be provided in the area.
- Apart from these, it includes all the facilities like commercial plots, police station, post office, primary health center, industrial plots.

### Satellite Cities in India

- | City    | Satellite city                                      |
|---------|---|
| Delhi   | Gurgaon, Noida, Greater Noida, Ghaziabad, Faridabad |
| Kolkata | Salt Lake, Newtown                                  |
| Mumbai  | Navi Mumbai, Thane                                  |
| Chennai | Sriperumbudur, Maraimalainagar, Oragadam            |

## Biharjoy is part of a new trend of Indian cyclones

### New trend

1. Although the number of cyclonic disturbances has decreased, their intensity has increased.
2. North Indian Ocean monsoon disturbance. As the Arabian Sea passes through the landmass between the Bay of Bengal, it undergoes several significant changes during these decades.

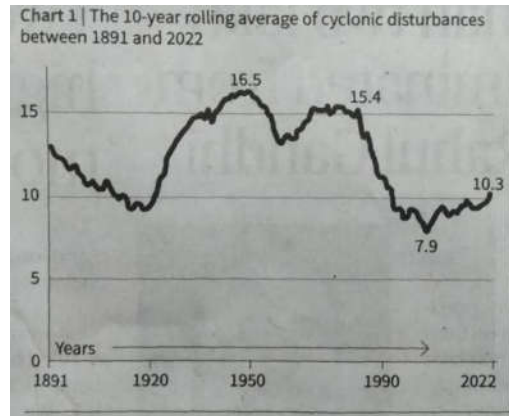
### State of trend

- The cyclonic disturbances over the North Indian Ocean, which includes the Arabian Sea, the Bay of Bengal and the land area in between, have gone through many significant changes in recent decades.



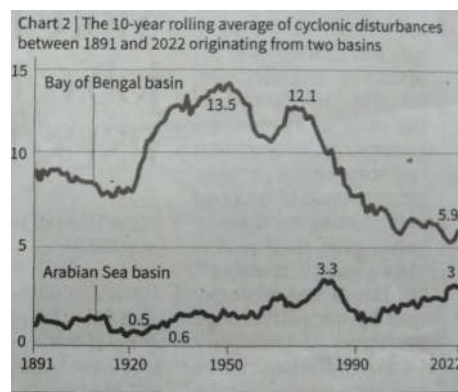
- First, the number of cyclonic disturbances in the North Indian Ocean has declined considerably over the past four decades.
- Second, this decline was mostly due to a rapid decrease in the number of cyclonic disturbances originating from the Bay of Bengal, the source of most pacy cyclones to have made landfall in south-east and west Asia. In contrast, the number of such disturbances originating from the Arabian Sea has been steadily increasing in recent years, though the count is still relatively low.

### Chart 1



- Shows the 10-year rolling average of cyclonic disturbances between 1891 and 2022. For instance in 2022, the 10-year average was 10.27, that is, in the previous 10 years (2013-2022), on average, there were 10 cyclonic disturbances per year.
- As the chart shows, the average was about 15 disturbances in the 1940s and 1950s and later in the 1970s.
- It decreased to below 10 in the 1990s, 2000s and 2010s. After a gap of almost three decades, the average went slightly above 10 cyclonic disturbances in 2023.

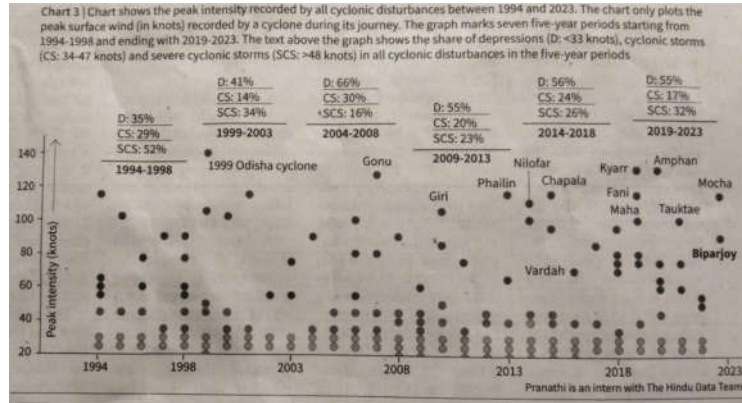
### Chart : 2



- Shows the 10 year rolling average of cyclonic disturbances between 1891 and 2022 originating from the Arabian Sea and the Bay of Bengal.
- The number of cyclonic disturbances originating from the Bay of Bengal has rapidly declined since the 1970s.
- In contrast, those originating from the Arabian Sea have considerably increased.
- From 1891 to 1962, on average, less than two disturbances per year were recorded from the Arabian Sea.

- However, since then, the average has increased, with over three cyclones being recorded in the 2020s (similar to the peak in the 1979-1983 period).
- A story published in the Hindu on Saturday reported that global warming is causing the Arabian Sea to heat up, which is resulting in more, stronger cyclones.
- Data show that about 34% of all disturbances that originated in the Arabian Sea have become severe cyclonic storms (a top speed of >48 knots) compared to the 19% of disturbances which originated from the Bay of Bengal and become severe cyclonic storms.

**Chart : 3**



- Shows the peak intensity recorded by all cyclonic disturbances between 1994 and 2023.
- The chart only plots the peak surface wind (in knots) recorded by a cyclone during its journey.
- For instance, Biparjoy reached a peak intensity of 90 knots.

**Economy - Scorching in the Summer**

- A heat wave is defined as a warmer than normal summer temperature

**Global impact**

- A global warming of 3.2 degrees Celsius could mean an 18 percent drop in the global economy by 2050, according to a Swiss research institute.
- The study warns that an average temperature increase of 2.6 degrees Celsius would result in an economic loss of up to a third of a country's natural resources.

**Impact on India**

- In 2021 alone, the loss of income due to high temperatures in certain sectors such as services, manufacturing, agriculture and construction alone is \$159 billion.

**In the field of agriculture**

- First, higher temperatures can affect agriculture and reduce crop yields, leading to food shortages
- There will also be an increase in food prices affecting consumers. Also, high temperatures affect other agricultural sectors such as lack of water for irrigation, crop disease and lack of fodder.

**In the power sector**

- After agriculture, the power sector is affected to a greater extent and increases the level of power demand among people

## In employment

- Taking into account the human resources sector, the World Bank has stated that by 2030 there will be 80 million global job losses and 34 million Indian job losses due to high temperatures affecting the productivity of workers.
- In less developed districts, a one degree Celsius rise in temperature would reduce per capita income by 4.7 percent. It is also said to have a negative impact on the level of borrowing among people in underdeveloped districts, demand for electricity, markets and roads.

## What is the solution?

- Policymakers must come together to formulate policies that are responsive to the ever-changing climate
- In agriculture, researchers have to go out into the field to find crop varieties that can tolerate high levels of heat
- Businesses should adhere to environment-related rules and use modern technology to do business in a pollution-free manner
- The government can come forward to give tax incentives to companies that carry out such business and implement environment-friendly technology
- Banks and financial institutions may encourage preferential equity lending for eco-friendly businesses
- Above all these, individual contribution starting with tree planting will also go a long way in curbing high temperatures

## New techniques should be developed to audit the blue economy

### Blue economy

- Auditor General of India Girish Chandra Murmu has said that new techniques should be developed to audit marine life or the blue economy.

### Aim

- Policies and regulatory frameworks are being aligned to conserve and use marine resources for sustainable development
- Supreme Audit Institutions should involve themselves in initiatives for national priorities through audits undertaken to monitor progress, implementation, and identify opportunities for improvement.
- Economies need to develop new techniques and capabilities to audit marine life or the blue economy to ensure sustainable development.

## Highway connecting Myanmar to Thailand

- A national highway is being constructed to connect three countries namely India, Myanmar and Thailand.

### Up to Kolkata

- The 2800 km stretch of highway starts from Bangkok, the capital of Thailand and ends at Kolkata in India.

### 2800 km distance

- The total distance of this road is 2800 km. Of this, 2500 km is located in India and Myanmar. The shortest distance is located in Thailand
- Thus the road construction work in Thailand has been completed. Roads are to be constructed for the rest of the distance in India and Myanmar to complete the project

**07**

# Environmental Science

## Plastic : Ways to recover

### Severity of risk

- It was only in the 1950s that the production of rubber started on a large scale. However, today we are at a point where we have to deal with more than 900 crore tonnes of plastic
- More than 700 crore tonnes of that has become plastic waste. Even more than 630 crore tonnes have not reached the recycling level. From this we can understand the magnitude of the danger we are facing

### How to understand?

- According to a 2015 estimate, between 53 lakh and 140 lakh tonnes of unrecycled plastic waste enters the ocean every year from coastal areas.
- Much of this is waste dumped carelessly by humans on land or in rivers (especially in Asia).
- The average volume of plastic waste washed into the sea annually is about 88 lakh tonnes
- Imagine having 5 plastic bags full of plastic waste on every foot of beach around the world.
- 88 lakh tonnes of waste would be that much. It's not clear how long it takes for plastic to decompose
- According to estimates it may take 450 years. Some waste may persist without composting

### Dying lives

- Millions of sea creatures die every year from plastic waste in the oceans
- This includes nearly 700 marine species. From the sediments of the deep ocean to the floating icebergs of the Arctic, microplastic is everywhere.
- Every marine organisms from zooplankton to whales eat these microplastics
- Chemicals added to plastics further degrade microplastics and turn them into nanoplastics
- These nanoplastics can also get into the tissues of fish and humans
- What is important to note is that we cannot detect nanoplastic particles
- Nanoplastic particles have already entered our tissues

### Uncontrolled production

- 50,000 crore plastic bags are used every year
- 1 crore 30 lakh tonnes of plastic ends up in the sea every year
- One crore and 70 lakh barrels of crude oil are used to manufacture plastic every year
- 10 lakh plastic bottles are bought every minute
- 10 lakh living creatures are killed by plastic every year
- 90 percent of bottled water contains plastic particles
- 83 percent of tap water contains plastic particles
- 50 percent of plastic is used only once

## Our contribution

- We know how plastic waste is generated. We also know how to recycle it.
- All we need to do is create the necessary institutions, systems and programs for it. We must create these before we reach the point of no return
- It is for this purpose that the UN Environment Program is implementing several initiatives
- The real and sustainable success of this project requires the participation and cooperation of all of us

## Worst accidents in the history of railways

- 1964 Dec 23 : 126 killed in Pamban-Dhanushkodi passenger train accident due to Rameswaram storm
- 1981 June 6 : Over 750 people lost their lives in a train accident while crossing a bridge across the Bagmati River in Bihar.
- 1995 Aug 20: 305 people died when Purushottam Express collided with Kalinithi Express near Ferozabad in Uttar Pradesh.
- 1998 Nov 26: 212 killed when Jammu Tawi Sealdah Express collides with three derailed coaches of Frontier Golden Temple Mail at Khanna in Punjab.
- 1999 Aug 02: 285 people, including army and para-military personnel, were killed in an accident when the Brahmaputra train collided with the Awadh Assam Express at Kaisal railway station in West Bengal.
- 2002 Sep 09: More than 140 people were killed when the Howrah Rajdhani Express derailed on a bridge over the Dawe river near Rabiganj in Bihar.
- 2010 May 28: 148 passengers killed when freight train collides with Jnaneswari Express train derails near Jhargram in West Bengal.
- 2016 Nov 20: 152 people died when 14 coaches of the Indore-Rajendra Nagar express train derailed in Bagrain, Uttar Pradesh.

## Will Periyar Wildlife Sanctuary cause affects?

- Erode district has Sathyamangalam Tiger Reserve and Vellodu Bird Sanctuary.
- In this context, in the Tamil Nadu financial report filed on March 20, it was announced that a new Periyar Wildlife Sanctuary would be established in Erode district.
- The sanctuary will be located in an area of 80,567 hectares of forest in Gopi and Anthiyur circles.
- It is noteworthy that this is the 18th wildlife sanctuary of Tamil Nadu
- There are many elephants, tigers, leopards, deer, bird species, expensive trees, herbs, vines here.
- The hill people living in the areas adjacent to the forest are engaged in agriculture and animal husbandry as their main occupation
- Water bodies such as ponds, lakes and puddles are also found in large numbers in forest areas.

## Tiger Route

- The new sanctuary is being created by combining the entire Anthiyur, Bargur, Chennampatti forest reserve areas in the Erode forest range and the areas under the Gobi circle adjacent to the Anthiyur forest area.

## Forest Rights Act should be implemented

- Tribals are those who depend on forests for their livelihood. The Central Government brought the Scheduled Tribes and Traditional Forest People (Recognition of Forest Rights) Act, 2006 to give them the right to live and use their land.

- In short it is known as Forest Rights Act
- According to this Act, the lands should be bona fide to the tribals living in forests and doing agriculture before 13th December 2005.
- But it has not yet been implemented in forest areas of Erode district
- The Forest Rights Act requires the government to register the rights of tribal and non-tribal forest dependent communities
- Entitlement includes tillage of forest land, collection of forest produce other than timber, usage of water bodies etc.
- It was the central and state governments that exploited the natural resources by building dams and mining in the forests
- Wild animals are safe only where there are tribals. Many injustices have been done to the tribals before the Forest Rights Act
- They have been chased away from their homes in the name of reserve forests
- The forest department has chased away the tribals who go into the forest to collect the dried twigs.
- The exodus of tribals from forests has been going on for the past 30 years.
- The Government of Tamil Nadu should temporarily suspend the declaration of forest areas of Erode district as wildlife sanctuaries as they never comply with the provisions of the Wildlife Protection Act 1972 and the amended Act 2006.

### **People will not be harmed**

- People also live in tiger reserve areas. They are engaged in agriculture and animal husbandry
- Similarly, this wildlife sanctuary will not cause any harm to the people. Wildlife and animals are protected and biodiversity is enhanced through the sanctuary.

## **India: Cultivating the co-existence of economics and ecology**

- India is an example to the world that there is no need to stop development work to protect the environment. Both economics and ecology can go hand in hand and progress. This is the path India has chosen.  
- Narendra Modi, Prime Minister

1. Launch of Mission Life: A global movement to protect the environment from the impact of climate change
2. In climate control it is the only country in the top 5 emissions on the same track compatible with 2 degrees of warming
3. India achieved its goal of doubling the country's tiger population four years ahead of schedule. With 3167 tigers, India today is home to 75% of the world's total tiger population
4. Cheetahs are back in India. Thanks to the world's first intercontinental large-scale carnivore relocation project
5. 200% increase: The number of Ram Sir sites has increased from just 26 in 2014 to 75 today
6. Between 2015 and 2021 there is a significant increase of 1000 square kilometers of forest area
7. India ranks fourth globally in renewable energy with an installed capacity of 172 gigawatts of renewable energy
8. It has identified and banned single-use plastic products in India
9. More than 37 crore LED bulbs are to be distributed under Ujala Yojana. This saves more than 19000 crore every year
10. Solar installed capacity has increased 25 times in the last 9 years from 2.6 gigawatts to 67 gigawatts.

## Have an environment friendly lifestyle

### Plastic

- The theme of this year's Environment Day is to lead the campaign to eliminate single-use plastics
- As early as 2018, projects to eliminate single-use plastics in India were launched
- According to this, single-use plastic items have been banned. Recycling of plastic waste is becoming mandatory

### Solar Power Project

- Emphasis is placed on solar power generation. Use of LED bulbs is encouraged. This saves peoples' money
- In addition, the country's environment is protected. A green hydrogen project has been launched in India to protect the environment
- Farmers are encouraged to switch to organic farming. By this, chemical fertilizers are avoided and soil fertility and water quality are improved

### Environmental protection

- To protect the country's environment, awareness campaigns on Green Future, Green Economy have been launched
- Amrit Dharohar Yojana has also been launched to protect zoos located across the country
- Mishti Yojana has been launched to protect mangrove forests
- India has emerged as the fifth largest economy in the world. At the same time, India is among the top five countries in renewable energy
- Exports of agricultural products are continuously increasing. A project to blend 20% ethanol in petrol is being successfully implemented
- Living in harmony with nature without harming the environment is emerging as a huge movement in India

## Is 50% solar power generation possible in Tamil Nadu by 2030?

### Renewable Power Generation in Tamil Nadu

- As per the Integrated Building Regulations announced 5 years ago, the government's directive to install solar energy panels has not been implemented, and the question has been raised whether 50% power generation will be possible by 2030.
- Renewable energy is generated in Tamil Nadu through wind turbines, solar panels, and dung-gas
- Infrastructural facilities have been created to generate 34,706 MW of electricity per day in Tamil Nadu
- 8,739 megawatts of electricity is generated from wind and 6539 megawatts from solar power.
- Only 20.88% of Tamil Nadu's total electricity generation is generated from wind and solar energy
- The Tamil Nadu government has set a target to increase renewable power generation to 50 percent by 2030 for environmental protection reasons.

### A government order that has not been implemented for five years

- The government is taking various measures to increase electricity generation through wind and solar energy panels
- According to the Integrated Building Rules 2019, especially in new residences and industrial establishments, the government has advised that one-third of the building surface should be fitted with solar panels.
- When applying to the concerned Panchayat, Borough, Municipality, Corporation offices for construction of new houses, flats, commercial complexes, industrial establishments, the installation of rain water collection tank, waste water tank, solar energy panel should be mentioned in the map.

- The local authority should issue proof of payment only after this application is inspected and confirmed on the basis of the map.
- Similarly, the Green House Scheme, the Prime Minister's House for All Scheme has made solar panels mandatory
- During the new construction work, the Town Planning Officer and Inspector shall visit the concerned site and inspect the lintel, roof level, rain water collection tank, septic tank, solar panel etc. at every stage.
- But concerned officers do not inspect such construction works

### **Negligence of local authorities**

- In most residential and commercial establishments, the owners who emphasize on installing rainwater harvesting tank, complete the construction work without installing solar panels
- In the end, they get the building completion certificate from the local body officials without installing the solar panel.
- The scheme, which aims to generate a certain amount of electricity from each building through solar panels and contribute significantly to the total power generation of the state, has been called into question due to the negligence of the authorities.

### **Consumer feedback**

- The cost of solar panels is high. An investment of up to Rs 40,000 is required for a residence of around 1000 sq ft and up to Rs 1 lakh depending on the size of the sq ft.
- According to this amount, it is not possible to fully meet the residential electricity requirement with solar panels. Due to this, the new residential builders are facing difficulties
- Therefore, the government should provide subsidy for installing solar panels
- Also, installation of solar panels can be made mandatory for commercial establishments and industrial establishments

## **The accident that teaches a lesson**

### **Coromandel Train**

- The Coromandel Express from Kolkata to Chennai was running on the first main track
- To make way for that train, a freight train was stopped on an additional track called the loop line, which diverges from the main line.
- Don't know if it's a signal glitch or an uncorrected twisting of the loop line. Coromandel Express, which was on the main line, entered the loop line and collided with a goods train parked there.

### **Bangalore-Howra**

- It should be said that rather than being hit, the train got on top of the engine of the cargo. The coaches of the Coromandel train derailed and fell onto the second main line
- Bengaluru Howrah Express which was coming towards Howrah in the opposite direction collided with the coaches and that coaches derailed as well
- In a matter of seconds, the most horrific accident took place and many lives were lost

### **Suspicion**

- Whether it's a signal problem or the track being diverted to the loop line and not fixed, a doubt remains unanswered.
- The question is why the Bengaluru-Howrah train, which was coming on another track in the opposite direction, could not be alerted within minutes of the Coromandel Express train accident.
- Safety equipment called 'Kavach' developed in India is installed in only two percent places
- The 68,000 km long Indian Railway infrastructure is the lifeblood of India. More than 20000 trains run on those tracks daily



- More than two and a half crore people travel. Railways also handles 33.2 lakh tonnes of cargo. At the same time, it is a bitter truth that accidents continue to happen
- Kakodkar Committee, D P Tripathi Report etc. have mentioned about the workload of train locopilot and staff. No care is given to imparting skill development training to them
- The manner in which the central and state governments jointly faced the train accident was appreciable

## Arikomban

- The forest department has taken the Arikomban elephant, which roamed around the Tamil Nadu-Kerala border threatening the public, to Kothaiyaru on the upstream side of the Manimuttar dam in Tirunelveli district.
- According to the forest department, the Kothaiyaru upper area is a high traffic area for elephants, is green and can meet the water needs of elephants, making it a suitable place for Arikomban to live.
- Born in the Chinnakanal protected forest area of Idukki district, Kerala, Arikomban lost her mother at the age of two.
- A large number of luxury bungalows have been built in the Chinnakanal forest area, resulting in the diversion of Arikomban's route into the town.
- Many civilians were killed by Arikomban in Chinnakanal area.
- The Kerala forest department captured the Arikomban elephant after giving it an anesthetic injection and released it in the Periyar Tiger Reserve adjacent to Tamil Nadu on April 26.
- From there Arikomban entered the town of Kambam causing panic among the people.
- Among human-wildlife conflicts in India, human-elephant conflicts are the most common
- Most of the reasons for this conflict are the increase of settlements and agriculture around the habitat of elephants and the construction of buildings including luxury bungalows in the forest area, which changes the path of the elephants and they come into the town.

## UNESCO Award for Management of Gulf of Mannar Biosphere Reserve

- Jagadish Bagan Sudhakar, Wildlife Conservator, Directorate of Gulf of Mannar Biodiversity, has been selected for UNESCO's Michel Batisse Award for Biodiversity Management.
- The award will be presented in Paris, the capital of France
- The Michel Batisse Award has been received for his efforts to protect natural resources in the Gulf of Mannar Wildlife Sanctuary
- We have received this award for the first time in India
- Tree sapling planting, palm tree planting has been done by forest protection team, self help group.
- Also planted many Mangrove saplings in the coastal area. To protect sea turtles, we collect their eggs and put them in hatchment centres and leave the hatchlings in the sea
- To take measures to protect sea cows, we have set up check posts in Dhanushkodi and Ervadi areas and are providing yellow bags to avoid plastic in marine areas.
- We have created awareness among students and general public. I present this award to the employees of Forest Department, he said

## Selection for International Award for the first time Acknowledgment of Marine Conservation Mission

- UNESCO's Michel Batisse Award for International Biosphere Management has been announced for India's first time to Jagdish Bakan, director of the Gulf of Mannar Biosphere Reserve, Ramanathapuram district.

## Gulf of Mannar Biosphere Reserve

- There are 738 biosphere reserves in the world. Of these, 18 are located in India
- One of them is the Gulf of Mannar Biosphere Reserve located in the waters of the Gulf of Mannar from Rameswaram to Kanyakumari.
- In this, 560 square kilometers including 18 islands from Ramanathapuram are protected as Gulf of Mannar Marine Life National Park declared in 1989.
- It is the first marine life national park in the country
- It is home to 3600 rare species of marine life, 117 species of coral reefs, seaweeds, 217 species of birds and mangrove forests.

## Jagdish Bakan Sudhakar

- Gulf of Mannar Biosphere Reserve and Gulf of Mannar National Park Office at Ramanathapuram are working to protect them.
- IFS officer Jagdish Bakan Sudhakar is working as its Director and National Park's Wildlife Conservator.

## Michel Batisse Award

- Since 2014, the Michel Batisse Award has been presented by UNESCO for the best Biosphere Reserve Management at the international level.
- Along with this award, a certificate and 12,000 USD is given (Rs 9,91,000)
- Jagdish Bakan Sudhakar has been selected for this award for the first time in the country
- He is going to receive this award at an event to be held in Paris, France
- 70,000 mangrove saplings have been planted in an area of 70 hectares. Coral reefs have been replanted in Tuticorin
- Similarly, community-based eco-tourism centers have been started at four places in Ariyaman, Kurasadaythivu, Kurasadaythivu Gate 2, and Tharuvaikulam in Thoothukudi district.
- 252 Eco Development Committees have been set up by Women Self Help Groups in the Gulf of Mannar region
- These fisherfolk have been given financial support for alternative industries such as production of palm fronds, palm jaggery production, and various food products through it.

## **Sea cow: Guardian of marine life**

- The Tamil Nadu government has announced that a sea cow sanctuary will be set up in the Pudukottai sea area of Thanjavur

## Vegetarian

- The dugong is a gentle marine mammal that eats only sea grasses and is a vegetarian
- They are fondly called sea cows because they feed on marine grasses just as cows on land feed on grasses

## Habitat

- Dugongs live in warm waters in the Indian and Pacific oceans
- Most abundant in Australian waters, these sea cows are found in Madagascar, Africa, the Bay of Bengal and the Persian Gulf, and around the Indian subcontinent.
- These dugongs live in India especially in the Gulf of Katch, Gulf of Mannar and in the Andaman and Nicobar Islands of the Palk Strait. It is a marine mammal

## Eats marine grass

- Although there are mammals in the ocean like whales and dolphins, dugongs are often compared to elephants

- The whale, the world's largest mammal, can swim for a long time
- But the dugong cannot swim for long
- It will come to the surface of the water every six minutes and breathe oxygen
- When in shallow water it rests its tail on the ground and breathes with only its neck extended
- It eats almost 40 kg of marine plants per day as befits its body

### Poor eyesight

- The dugong has great hearing but poor vision. They are usually found living singly or in pairs

### Live for 70 years

- Puppies born with a gestation period of 12 months are safely nursed for at least one year. The lifespan of this rare animal is 70 years
- In addition, the male dugong has ivory-like incisors, similar to elephants
- Because of this it is often compared to elephants

### In danger of extinction

- Whales, sharks and crocodiles are the natural enemies of the dugong, which is an indirect watchdog for the proliferation of marine life and an ecological engineer who plays an important role in protecting the marine environment.
- But the biggest threat to this is humans
- Humans hunt them for their delicious meat and skin
- That impact is not limited to the fact that future generations will not see the marine mammal if the dugong goes extinct
- Their absence will also affect the availability of marine fish as a staple food for nearly millions of people

### The country's first sea cow sanctuary at a cost of Rs 5 crore

- An announcement has been made for sea cow sanctuary in Palk bay
- The government has allocated five crore rupees for this project, which is to be implemented in an area of 448 square kilometers between Tanjore district, Athirampattinam, Pudukottai district, Amma Pattinam.
- The sanctuary will help protect the marine biodiversity of the Gulf of Mannar and Palk strait, including a variety of fish, turtles and marine plants.
- This sea cow sanctuary announced by Tamil Nadu is the first of its kind in India.
- This will make wildlife conservationists not only in Tamilnadu but all over the world proud.
- This will be a major milestone in the conservation of marine life in our country

### Benefits of Sea cow Conservation

- 7 species of seaweeds are found in Gulf of Mannar and Palk strait in India.

## **Greta Thunberg**

- Greta Thunberg started a school strike at the gates of Sweden's parliament four and a half years ago, urging national governments to take political action to tackle climate change.
- She is promoting climate change awareness under the name Fridays for the Future

### Who is Greta Thunberg?

- A girl sat at the gate of the Riksdag, the Swedish parliament, with a banner in her hand. It said "school strike to save the climate"

- The girl named Greta Thunberg started her own struggle to save the planet from climate change that day
- She drew inspiration for her style of protest from the pro-life marches held by students to protest school shootings in the United States.

### **A historical turning point**

- By the 1990s, human-induced climate change was clearly demonstrated as a scientific fact by an economic system based on fossil fuel use.
- The Intergovernmental Panel on Climate Change has been publishing climate assessment reports since the mid-1990s
- However, an improved understanding of the nature of climate change or its severity has not systematically occurred in the general public. Even so, it was within a limit
- Against this background, 2018 was a watershed year for climate change rhetoric
- Two events led to this. One is Greta's arrival. Another is the special report on Global warming of 1.5°C published by the IPCC
- Both of these have intensified the conversation about climate change in the general public like never before. Greta's rise played a key role in that
- The IPCC's report prompted a media operation in the West that prioritized climate change

### **Global struggles**

- Greta's weekly Friday school strike at the gates of the Parliament in Sweden has sent shockwaves beyond European countries to the entire world.
- Greta's peers took inspiration from her and started similar strikes in their own countries
- Greta's voice has emerged as the leading contemporary voice against climate change
- This is her latest message, questioning the political representatives of previous generations to ensure a secure future for Greta's generation, "We have no choice but to do our best; The struggle has just begun"

## **4000 MW each in solar and wind power generation in Tamil Nadu**

- Tamil Nadu has 3000 MW of thermal power plants, 4000 MW each from solar and wind power plants.

### **Wind, solar**

- Tamilnadu power consumers are supplied with electricity generated from thermal, nuclear, hydroelectric power plants, gas power plants etc.
- Wind turbines in Tamil Nadu provide environmentally friendly electricity
- Districts like Coimbatore, Tirupur, Karur, Kanyakumari, Nellore, Thoothukudi, Dindigul, etc. have the highest number of wind farms in Tamil Nadu.
- In total there are more than 13 thousand wind farms in Tamil Nadu. These have a power generation capacity of about 8,757 MW
- Out of about 25,000 wind farms in India, about 10,000 wind farms are located in Tamil Nadu.

### **50% of energy**

- About 50 percent of Tamil Nadu's electricity is generated and distributed through wind and solar power
- The government plans to double the installed capacity of power generation in the state by adding 33,000 MW by 2030 with an aim to meet the growing power demand.

## Climate breakdown : The Arctic Ocean could be ice-free by the 2030s

### Blue Ocean Event

- Lack of sea ice in arctic region during summers.

### Multiyear sea ice

- Ice which remains at the end of summer in arctic region.
- Thicker than seasonal ice.
- Climatically significant
- Acts as a barrier to the transfer of moisture and heat between the ocean and atmosphere.
- When multiyear sea ice is less than 1 million sq km then Blue Ocean Event is said to have occurred.

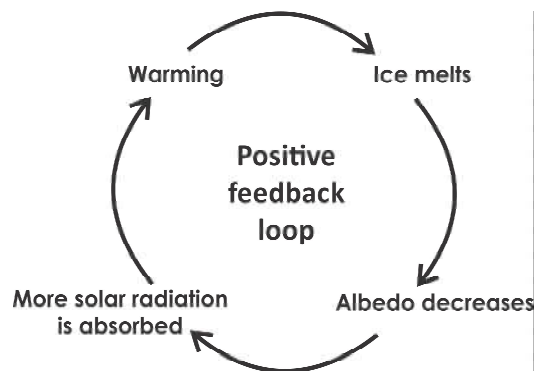
### Difficulty in predicting Blue Ocean Event

- IPCC report 2021 - Blue Ocean Event in 2050.
- Nature Communication article - Blue Ocean Event in 2030.
- Factors influencing the event
  - Atmospheric circulation
  - Oceanic circulation
  - Flow of heat between atmosphere and ocean

### Importance of arctic ice

#### Climate regulation

- Arctic ice has high albedo.
- Reflects incoming radiation preventing warming.



### Global oceanic circulation

- Initiates thermohaline circulation (global oceanic conveyor belt).
- Helps in redistribution of global temperature.

### Habitat for various species

- Marine mammals - Polar bears, seals and walrus.
- Sea ice provides platform for hunting, breeding and resting.

## The uproar over the new COP28 President

- Each year, the host country for the COP summit nominates a president to helm the climate negotiations with almost 200 countries.
- The UAE announced Mr.al-Jaber, the State oil company CEO, as its pick in January, a move that received immense backlash from Western lawmakers, leaders of some countries, as well as civil society groups.

### Who is Sultan al-Jaber?

- Mr.al-Jaber, the CEO of the Abu Dhabi National Oil Company (ADNOC) since 2016, was appointed as UAE's Minister of Industry and Advanced Technology in 2020, a new department established that year.
- In 2020, he was for the second time appointed as the UAE's special envoy for climate change.
- He was also serving as the Chairman of Masdar, a renewable energy firm in Abu Dhabi, which he helped start in 2006.
- According to the BBC, masdar is now active in more than 40 countries and has invested in mainly solar and wind power projects of a total capacity of 15 gigawatts, which is capable of displacing more than 19 million tonnes of carbon dioxide emissions annually.

### Why is Sultan al-Jaber's appointment facing criticism?

- Climate campaigners and groups have been voicing their discontent with the appointment of an oil executive to head a summit responsible for brokering global partner negotiations to mitigate climate change and build a framework to meet the countries' pledge at the 2015 summit in Paris to limit global warming to 1.5°C as against pre-industrial levels.
- Scientists are unanimous on the fact that carbon emissions need to be halved by 2030 and 'net zero' emissions reached mid-century if the goal has to be achieved.
- Another agreement within the scientific community and many world leaders is that reducing the production and use of fossil fuel resources-coal, oil and gas-is the way to meeting the promises of the Paris Agreement.

### Criticism

- The UAE leader who was present at Bonn, did say that COP28 was going to be "inclusive" and deliver a "game-changing outcome" to tackle climate change, but he did not talk about a concrete plan to phase out fossil fuels or address his links to the fossil fuels or address his links to the fossil fuel industry.
- However, as CEO of the state oil firm ADNOC, Mr.Al-Jaber's 2030 strategy is to build a more "profitable upstream, more valuable downstream and more sustainable and economic gas supply", which essentially means more fossil fuels.
- Critics, like Michael Bloss, a German member of the European Parliament argue that the appointment was "a scandal" and a "perfect examples of a conflict of interest".
- The member of the German Green Party says, "It's like putting the tobacco industry in charge of ending smoking."
- According to the Organisation of Petroleum Exporting Countries (OPEC), ADNOC pumped 2.7 million barrels of oil per day in 2021 and has ambitious plans.
- It is vying to nearly double its daily output to five million barrels by 2027 - a deadline which was moved forward from 2030 this year by Mr.al-Jaber.

### Why has Mr.al-Jaber's advocacy of carbon capture been criticised?

- On climate goals, some world leaders have been pushing for a phaseout of fossil fuels as the way to go while others insist on oil and gas continuing to paly a role in the future, provided their emissions are somehow curbed.



- Mr.al-Jaber belongs to the latter school of thought.
- Climate campaigners and scientists have expressed caution that technologies proposed so far to capture fossil fuel emissions have not been tested at scale.
- They also argue that such responses do not hit at the root cause of the problem and look at post facto containment once emissions are released, pointing out that they could also divert attention and resources from effective alternatives such as renewable energy.
- The UAE, while having backed the idea of boosting wind and solar power, has made clear that it wants to keep fossil fuels as an option for the foreseeable future.
- Mr. al-Jaber said his country wants "a comprehensive, holistic approach to an energy transition that included all sources of energy."
- He did, however, say that the phase down of fossil fuels was "inevitable" while stopping short of advocating complete ban.
- More than 80 countries backed efforts to put oil and gas, not just coal, on notice at the last UN climate summit in Egypt.
- These are countries in Europe and small and vulnerable island nations which are at risk of sinking and have adopted strict climate action policies.
- Meanwhile, the U.S. and the U.K. have backed Mr.al-Jaber's Presidency.
- Many stakeholders argue that having all voices at the table, including a decisive figure from the oil industry, can make negotiations more concrete and realistic.
- Developing nations like Bangladesh and the Maldives have also said that fossil fuel-dependent economies are critical to climate negotiation and mitigation efforts, and that they have a more difficult task defining their energy transition strategy.
- They are banking on Mr.al-Jaber to help secure climate investments supported by sovereign wealth funds and multilateral development banks.
- They argue that for the poorer and developing countries, curtailing economic growth is not an option while the rich and developed countries continue to pollute.
- India, which has been an advocate of climate justice, has also supported the appointment.

### **What plans has Mr.al-Jaber highlighted to tackle climate change?**

- Mr. al-Jaber has reiterated the need to double down on renewables.
- He said in a speech that "reaching net zero will deliver the biggest market transformation, greatest economic and human promise since the first Industrial Revolution," adding that this could be done by tapping into the renewables market.
- Supporting the idea that developing nations, while vulnerable to climate change, have their economic and development priorities fulfil, Mr.al-Jaber said one of the important focuses of the negotiations would be to get funds from bigger nations and multilateral development banks, institutions, and to activate already existing corpus funds to which give to developing countries.

## **2000MW offshore wind farm to be tendered in July**

- The Central Department of Renewable Energy will next month call for tenders to lease offshore land to a company to set up a 2,000 MW wind power plant in the Tamil Nadu offshore.

- The Tamil Nadu Power Board has asked the central government to supply all that electricity to Tamil Nadu at Rs 4 per unit
- Tamil Nadu has 10,000 megawatts of land-based wind power plants
- Offshore wind farms have been installed in several countries, including Scotland
- Many studies are going on through the National Wind Power Corporation to set it up in our country as well

### Study

- Based on this, a 4000 MW wind farm is planned to be set up in the sea from Kanyakumari to Tuticorin.
- A tender will be called for in July to lease the seabed to a company that will set up a 2000 MW power plant in the first phase.
- The company selected in the tender will carry out a two-year study related to the construction of the power plant
- It has been decided that the construction work of the power station will start in 2025 and the power generation will start in 2028
- A state-of-the-art substation will be set up in the sea to bring the electricity generated from it

### Place with high wind

- LiDAR will be installed in the sea for the survey of offshore wind farm
- In it, the details such as where in the sea, in which direction and at what speed the wind blows, in which month the highest wind occurs, at what time in 24 hours in a day the highest wind blows are accurately recorded.
- Accordingly, the power plant will be set up at a place with high wind.

### How to set up offshore wind farm?

- The sea area within 50 km from the coast will be selected. A giant tower 50 meters high from the sea floor will be erected there. 100 to 150 meters above it, the turbine equipment of the wind farm will be installed.
- A mega watt offshore wind power plant costs around fifteen crore rupees.
- The plant load factor (PLF) of the wind farm to be set up in the Kumari Sea is 54%. It is 42 percent in other states.
- A wind farm has turbines with a power generation capacity of 10 to 15 megawatts. Electricity will be available for ten months in a year.
- The central government has said that there will be no route charges till 2032 to carry that electricity across the country.
- Due to this, there will be competition among various companies to get the contract for the offshore wind power project.

## **PM Pranam**

- The government has also decided to table a bill in Parliament to set up a National Research Foundation
- Cabinet approves PM Pranam scheme to encourage states to promote alternative fertilizers and reduce reliance on chemical fertilizers
- The scheme was first announced by Finance Minister Nirmala Sitharaman on February 1 as part of this year's Union Budget.



## Cashless economy: is an immediate need?

- This report talks in detail about loan amount, inflation, foreign exchange reserves, currency management
- The Governor of the Reserve Bank has sent this report to the Government (Finance Secretary). But it is not a report to the government, it is a report of the government
- Volatility has receded in global financial markets. Bank failures in some advanced countries have eased risks to financial stability, the report begins
- However, the global economy, which grew rapidly in 2022, will slow down in 2023 and 2024. The report also warns that some countries' debt crises will highlight globalization's contribution to economic growth, where investment in technology transfer is shrinking.
- Inflation in India rose to a peak of 7.8% in April 2022, similar to other countries due to higher crude oil prices and post-Ukraine war supply disruptions.
- Inflation came under control at the end of the year due to supply management measures taken by the government including the repo rate hiked by the Reserve Bank.
- The report said India's export trade in this fiscal year was down 1 28.9 billion, up 6.8% from the previous year.
- Credit card transactions increased by 30.1% and debit card transactions by 13.2% in the last financial year. At the same time, the use of currency is also increasing
- Although the industrial service sector has grown rapidly, traditional industries such as agriculture, fishing and village industries continue to play an important role in the Indian economy.
- The contribution of the common man in the resource industries of our country is paramount. They still prefer cash-based economic activities
- Digital transactions do not appeal to the grassroots who make a living on daily wages
- Avoid cash transactions, the Income Tax department warns, as these can have dangerous consequences
- It's sound advice, but it's enough to have a valid reason or proof of holding large amounts of cash
- The coexistence of cash and digital transactions reflects an intriguing dilemma in Indian economic policy
- Without a doubt, the benefits of digital economy are immense. That is the economy of the future
- But the pace of digitization does not justify the mentality that cash transactions are bad
- As the then Prime Minister Charan Singh said on Independence Day 1979, "Modernization is different; mechanization is different."
- Let's change this slightly and apply it to the digital economy. Modernism is good. But modernization in mechanization?

## 40 countries are interested in adopting the UPI system introduced for money transfer in India

- More than 40 countries are keen to adopt the UPI remittance service, which is very popular among people in India.

## UPI

- Various initiatives are being taken to facilitate easy banking transactions
- Unified transaction data called UPI is one such technological development

## National Payments Corporation of India

- UPI is NPCI's enhanced electronic transaction service payment system

## Cash transaction

- UPI allows instant money transfer between two bank accounts. Through this, instant cash transactions can be done 24 hours a day

## Countries around the world

- Countries around the world are now adopting UPI for money transactions
- Especially Singapore, Oman, Saudi Arabia, Malaysia, France, Belgium, Netherlands, Switzerland have introduced the UPI system in their countries.
- More than 40 countries including UK, Russia, Australia, United Arab Emirates, Bhutan, Nepal, Thailand, Vietnam, Cambodia, South Korea have shown interest in implementing UPI electronic money transfer service in their countries.
- For this, those countries are consulting with India

## **India-UAE trading soon in Rupee-Dirham**

- India-UAE is actively negotiating to trade through Rupee-Dirham, Commerce and Industry Minister Piyush Goyal said

## Alternate to dollars

- India continues to try to trade with other countries in Indian rupees and the currencies of the respective countries as a substitute for the US dollar

## India-UAE relationship

- A free trade agreement was signed between India and UAE in May
- In the next step, the two countries are trying to trade in their own currency
- India-UAE Central Banks hold talks on both countries using their own currencies in bilateral trade
- Procedures are being worked out in this regard. The leaders of both the countries are firm on this

## **Is recovery package essential?**

- The contribution of PSUs in the development of independent India is significant. They play an important role in expanding micro-enterprises and increasing employment
- No one can underestimate the contribution of PSUs in service sectors including railways, aviation, information and telecommunications

## 1991 Economic reform

- In the first quarter century after independence, PSUs were created in an environment where there was no private investment

- The aim is for the private sector to follow their example
- As the private contribution increased as expected, the public sector institutions started to become burdensome over time as they did not act consciously to take responsibility
- That was the reason for the introduction of economic reform in 1991 and with it privatization.

### An India MTNL airport

- Air India, which had become a huge burden, was sold to Tata. Tens of crores of taxpayers' money has been wasted to maintain Air India, which has been operating at a constant loss.
- In the end, when no one even came forward to buy Air India, which had coveted global assets, the government washed its hands by selling it to Tata at the asking price.

### MTNL

- Like Air India, two service companies that continue to face losses are Bharat Sanchar Nigam (BSNL) and Mahanagar Telephone Nigam (MTNL).
- The Union Cabinet has now again approved a rescue package in an effort to save these loss-making companies.
- This is the third such attempt in the last four years
- In 2019, PSUs BSNL MTNL were given Rs 69,000 crore to revive themselves.
- It is ironic that BSNL and MTNL were allowed access to 4g spectrum while the Rs 20,000-crore allocation of 4g spectrum was being made to move to the spectrum.
- It was then that the idea of privatizing these was proposed.
- But no one came forward to buy it. The government and the unions do not understand that saving by providing rescue package again and again
- If the immovable assets of those PSUs had been auctioned at a good price, they could have given substantial compensation to all the employees and held a closing ceremony, tax money would not have continued to be wasted.
- Three years later in 2002, the central government provided Rs 1.54 lakh crore to revive loss-making PSUs BSNL and MTNL with a rescue package.
- The central government miscalculated that through this capital assistance, it would be able to make the public sector company compete with private companies economically, technologically and in terms of broadband services.

## **When is full insurance for deposits?**

### Bail-in

- Government will not bear the burden of insolvent financial institutions
- Instead it becomes the responsibility of investors and shareholders who have deposited money in that financial institution or bank
- This means that the responsibility for the financial burden of an insolvent bank is transferred from the government to the investors
- Accordingly, investors' deposits are not fully refundable to customers
- With this background we have to consider whether people's money in banks is safe

## 5 lakhs

- Government of India has increased the maximum guarantee amount that banks have to provide to investors to Rs 5 lakh after February 2020 to allay the fears of bank investors.
- Banks provide this insurance to investors with the help of Deposit Insurance and Credit Guarantee Corporation
- So those who have money up to five lakh rupees in the bank need not worry
- This insurance makes it clear to the depositors who keep their money as deposits or investments in the bank how safe their money is.

## Bankruptcy

- The first bank failure in independent India occurred in Bengal in 1948

## Deposit Insurance Act 1962

- In the 1960s, Lakshmi Bank and Palai Central Bank were declared insolvent
- Subsequently, the Depositors Insurance Corporation Bill was passed in Parliament to protect bank investors
- The Deposit Insurance Act 1961, which came into effect in 1962, ensured that bank depositors were insured by the insolvent bank.
- However this insurance is limited to the amount of deposit paid in the bank; Not applicable for loans
- The Deposit Insurance Act initially restricted commercial banks only
- The Act was amended in 1968 to regulate co-operative banks also
- The Loan Guarantee Corporation of India was formed by the Reserve Bank of India in 1971. It was set up to ensure access to bank credit for the poor and socially disadvantaged
- In 1978, the Deposit Insurance Corporation and the Credit Guarantee Corporation of India merged to form the Deposit Insurance and Credit Guarantee Corporation.
- Initially, the value of insurance provided by insolvent banks was Rs.1500
- This means that no matter how much money a person has in the bank, in the event of the bank going bankrupt, he will get a maximum of Rs 1500
- In 2020, this amount has been raised to Rs 5 lakh
- For this all banks are required to pay insurance premium to DICGC
- The insurance premium for this was 0.05 percent of the total fund amount. It has now risen to 0.12 percent
- This insurance premium is unrelated to the bank's customers. Banks themselves pay this amount
- 2025 banks are listed in ten classifications bound by insurance norms
  1. Public Sector Banks (12)
  2. Private Sector Banks (21)
  3. Foreign Banks (44)
  4. Microfinance Banks (12)



5. Payment Banks (6)
6. Regional Rural Banks (43)
7. Local Area Banks (2)
8. State Cooperative Banks (33)
9. District Central Cooperative Banks (352)
10. Urban Cooperative Banks (1500)

### How can customer get 5 lakhs?

- It consists of the amount deposited in the bank savings account and the interest thereon. However, the important rule is that only one insurance is available for multiple accounts held in a bank
- Even if a person has multiple accounts in multiple branches of a particular bank, they all count as one bank account
- However, if a customer has multiple accounts in the same bank in different names, separate insurance is available
- The Reserve Bank is the financial governing arm of the Government of India
- All the banks in the country operate on the basis of the license granted by the Reserve Bank
- Hence it is the duty of RBI to ensure complete coverage of entire deposits of bank customers. Because what is in banks is people's money.

## **Creative sessions - Membership Duties**

- The first national conference of Legislative Assembly Speakers and Members was held in Maharashtra state capital Mumbai

### Decorum

- The number of constructive sessions in Parliament and Legislatures is decreasing and disorganization among members is increasing
- These will reduce their dignity. Parliament being the temple of democracy, it is the responsibility of the members to protect the dignity of the legislatures
- Some have been paid to ask questions in Parliament, watching videos on their mobile phones while Parliament is in session, Members should exercise restraint and model themselves as representatives of the people in the context of live broadcast of the proceedings of the Parliament.
- In recent times, there has been an increase in the number of Members of Parliament speaking and acting indecently in public
- The party leaders who are supposed to take action against members who misbehave in Parliament do not take action against them because of the member's caste background, popular influence and financial power.
- Such an approach is an act of degrading the dignity of the Parliamentary Assembly. The members of the parliament should realize that the political philosophy of democracy is the success of the government run by the people by the people for the people and should act accordingly.