

FEBRUARY

CURRENT ISSUES

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

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01

# Modern History of India and Indian Culture

## La. Ganesan sworn in as Nagaland Governor

- Guwahati High Court Judge Songkhupchung Serto administered oath to La. Ganesan
- La. Ganesan served as the Governor of Manipur from August 2021
- La. Ganesan takes office as the 21<sup>st</sup> Governor of Nagaland.

## B.V.R. Subrahmanyam appointed as Niti Aayog CEO

- Parameswaran Iyer, who is currently the Chief Executive Officer of Niti Aayog, has been appointed as the Executive Director of the World Bank for a three-year term and is set to move to the US.
- Subsequently, Subrahmanyam has been appointed as the new CEO of Niti Aayog.

## Sansad Ratna award to 13 MPs

- The APJ Abdul Kalam Lifetime Achievement Award is presented to T. K. Rangarajan, Member of the Rajya Sabha, Communist Party of India.

Awardees	State	Award
T K Rangarajan	Tamil Nadu	APJ Abdul Kalam Life time achievement award
Sudhir Gupta	Madhya Pradesh	Sansad Ratna
Bidyut Brana Mahato	Jharkhand	Sansad Ratna
Sukanta Majumdar	West Bengal	Sansad Ratna
Heena Gavit	Maharashtra	Sansad Ratna
Gopal Chinayya Shetty	Maharashtra	Sansad Ratna
Adhir Ranjan Chowdhury	West Bengal	Sansad Ratna
Kuldeep Rai Sharma	Andaman & Nicobar Islands	Sansad Ratna
Amol Ramsing Kolhe	Maharashtra	Sansad Ratna
John Brittas	Kerala	Sansad Ratna
Manoj Kumar Jha	Bihar	Sansad Ratna
F T Ahmed Khan	Maharashtra	Sansad Ratna
Vishambhar Prasad Nishad	Uttar Pradesh	Sansad Ratna
Chhaya Verma	Chhattisgarh	Sansad Ratna

## Ajay Banga appointed as World Bank President

- Ajay Banga will lead the World Bank effectively in the current economic crisis situation
- He will be the first Indian-origin Sikh to head the World Bank.
- Ajay Banga, 63, is currently the Vice Chairman of General Atlantic Finance
- Ajay Banga has also received the Padma Shri award in 2016.

02

# Social Issues in India & Tamil Nadu

## Sexual Offenses

### Rafiq vs State of UP

- In the case of Rafiq vs State of UP, Justice Krishnayyar's statement 'A murderer kills one's body, a rapist kills one's soul. Therefore, 'rape is more cruel than murder', is applicable for all times
- Considering the seriousness of such crimes, the minimum punishment is 7 years and the maximum punishment is death.

### Report

- As of 2021, 88 people are raped every day in India, according to the National Crime Archives.
- 54% of crimes go unreported
- Only 27% of the reported cases are convicted
- In such heinous crimes, maximum punishment is given to the perpetrator and compensation to the victim is the least consolation
- When even that is not fulfilled or delayed, confidence in justice-administering institutions gets shattered.
- There is no denying that precedent-setting verdicts in rape cases such as Maharashtra's Madura case, Rajasthan's Banwari Devi case, and Delhi's Nirbhaya case have led to legislative amendments on rape.
- Banning the two-finger test based on these cases is also welcomed as it is against the dignity of women
- This care should be followed in speedy delivery of judgments as well
- Speedy judgments can be the basis for curbing crime to some extent

### Hathras incident

- In a letter to the state governments regarding the 2020 incident of rape and murder of a teenage girl in Hathras village of Uttar Pradesh, the Ministry of Home Affairs had informed that the police investigation and court hearing should be completed within a maximum of 2 months.

## Justice Rohini Commission

- The 14th term of the commission headed by former Delhi High Court Chief Justice Rohini to make recommendations including equitable distribution of 27% reservation in OBCs in the Central List has drawn criticism for the delay.

## Reason

- 27 percent reservation for the OBC category in education and employment was given as per the recommendation of the Mandal Commission
- There has long been a grievance that the benefits of this reservation have not reached the diverse OBC community.
- In 2015-16, the National Commission for Backward Persons made various recommendations to secure reservation benefits for the most backward OBCs.
- As a result, Justice Rohini Commission was constituted on 2nd October 2017.

## Delay

- Five years after the Commission was constituted by the President under Article 340 of the Constitution of India, the Commission is yet to submit its report.
- The Government reserves the right to extend the term of office of a Commission based on the nature of the matter taken up, examination and investigation
- But undue delay may defeat the purpose of setting up the Commission.

## Challenge

- Lack of data on the population of various castes falling under the OBC category is a major challenge being faced by the Rohini Commission.
- Lack of data on the population of various castes falling under the OBC category is a major challenge facing the Rohini Commission.
- But Justice Rohini withdrew the letter at the time of 2019 Lok Sabha elections.

## **Elimination of manual defecation**

- Union Finance Minister Nirmala Sitharaman's financial statement on February 01, 2023 stated that de-clogging of cesspools and manholes in all Corporations, Municipalities, Local Government Areas will be 100% mechanized.
- It has also been announced that all these tanks and pits will be converted from manned landings to machine landings.

## Humans disposing of human waste

- Humans are involved in removing the human waste that falls on the tracks from the trains.
- Bio-toilets are being implemented in trains so that this task is not required.
- However, this was not fully accomplished.
- In this age of scientific advancement, humans are often involved in cleaning and unclogging sewers and cesspools.
- As the people involved in both these types of work have to handle the excreta with their hands, this work is defined as manual scavenging.



## Deadly work

- Manual scavengers suffer from countless diseases and die quickly.
- Sanitation workers descend into sewer pits and cesspools, risking death by suffocation from inhaling toxic fumes.

## Prohibitory measures, laws

- In India in the 1950s, Gobichettipalayam municipality was headed by G.S. Lakshmana Iyer banned the practice of scooping stool by hand.
- This is the first time the practice has been officially banned.
- In 1993, the central government passed the Manual Excavation-Construction of Dry Latrines (Prohibition) Act, which made it possible to impose a jail term of up to one year and/or a fine of up to Rs 2,000 for those involved in manual excrement, construction and cleaning of dry latrines without access to water.
- But in the 20 years the law has been in force, not a single person has been convicted.

## Ongoing woe

- Lack of other livelihood opportunities for those engaged in this work, problems with mechanization.
- Apathy of the local bodies responsible for the implementation of the law.
- Various reasons contribute to this, including the availability of manpower for unclogging sewers at low wages through private contractors.

## **Research courses: Increase women's contribution**

### STEM

- National Higher Education Survey 2019-20 says Tamil Nadu's percentage of higher education attainment (51.4) is almost double the national average (27.1).
- Especially in our state, another point of pride is that women outnumber men by a percentage
- At the same time, it is troubling that these women choose only sections such as Arts, Science and Commerce in post-graduation.
- Fewer women enroll in STEM fields such as science, technology, engineering, and mathematics
- While the number of male Nobel laureates in physics, chemistry, and medicine approaches 600, the number of women does not touch thirty.
- Globally, only 14% of women are employed in technical research institutes
- In this context, it is comforting that 43 percent of women enroll in STEM courses in India.

### Reason

- Schemes for women's higher education in Tamil Nadu, schemes such as the government taking over the tuition fees of female students studying in government schools and joining vocational education, have been the reasons for the increase in the number of women in these fields.

- Gender discrimination in finance and training, social structure, patriarchy, imposed housework, physical and psychological stress faced by marriage and childbearing are major setbacks for women.
- Excluding women from research work by citing social structure and family responsibilities obscures their contribution to the country's economy.

### Women's Science Day

- While primary education was once a dream, Tamil Nadu has reduced the rate of child marriages and increased the percentage of female education through a scheme called Marriage Funding for students studying up to class VIII.
- It should not remain a mere history but ensure the presence of women in professional departments and research courses
- International Day of Women and Girls in Science is observed on 11th February every year to increase the participation of women in STEM fields.
- The UN has announced the theme of this year is Advancing Women towards Sustainable Development
- By placing women scientists in classrooms, laboratories, and decision-making bodies, the world's vast untapped knowledge can be brought to light, says UN Secretary-General António Guterres.
- May our governments act to fulfill his hope

## **Child marriage in Assam**

- Child marriage is one of the social problems of India
- Especially in the north-eastern state of Assam, the cruelty of marrying off girls as soon as they reach puberty has been taking place for a long time
- We are planning to eradicate child marriage completely by 2026 in Assam
- Those who marry girls below the age of 14 will be booked under the POCSO Act.
- Those who marry girls between the ages of 14 and 18 will be prosecuted under the Child Marriage Prohibition Act
- There is no room for sympathy in this matter
- Child marriage is a social evil
- In the year 2022 alone, 6.2 lakh girls have become pregnant in Assam
- This increases perinatal mortality
- Children suffer from malnutrition and various diseases.

### Reasons

- Poverty and illiteracy are major causes of child marriage
- Girls are seen as a burden in most families
- Because of this, they marry girls as soon as they reach puberty
- Intensive awareness campaign among people to solve this problem.

## Temporary prisons

- The practice of living together without marriage persists among the tribal people of Assam
- Thus, in the hamlets the minor male and female live together
- Due to the large number of arrests at the same time, there is a shortage of space in the jails
- Everyone should take a pledge to make India free of child marriage
- Assam government has taken the first initiative for this.

## Juvenile Justice

### Thoughts and Law

- Growing environment and other social factors make a person criminal
- Therefore, the idea of giving juvenile delinquents a chance to reform and providing facilities for it started spreading in Western countries from the nineteenth century.
- In this background, the Juvenile Court was established for the first time in Chicago, USA in 1899.
- Government remand homes were created to house delinquent juveniles
- In 1960, the Children's Act, applicable throughout India, was enacted
- This law prohibited the imprisonment of a minor for any offence
- The Act also included provisions for providing protection, care, training, education and rehabilitation to children

### Amended Acts

- In India, the Juvenile Justice Act was introduced in 1986 to replace the Children Act
- Based on the UN Convention on the Rights of the Child 1989, the Juvenile Justice (Care and Protection of Children) Act, 2000 was passed in India
- Considered to be the most progressive in ensuring juvenile justice, this Act recognized all persons under the age of 18 as children or juveniles.
- The Act was intended to emphasize the rehabilitation of juvenile delinquents.
- Juvenile Justice (Care and Protection of Children) Act, 2015
- This law made it possible for those involved in serious crimes including murder, rape, if they were above 16 years of age to be treated as equals on completion of 18 years of age.
- A Juvenile Justice Board can decide whether a person above 16 years of age should be considered above 18 years of age after examining his physical strength, mental strength, mental capacity to contemplate the consequences of a crime and the circumstances conducive to the crime.

### Juvenile Justice Board

- Section 4 of the 2000 Act provides for the establishment of Juvenile Justice Boards to exercise the powers and discharge the duties conferred by this Act to deal with delinquent juveniles.

- The 2015 Act led to the formation of Juvenile Justice Boards in all districts.
- These Boards constituted by the State Governments shall consist of a First Class Judicial Magistrate and two Social Workers with at least 7 years of experience in health, education or welfare work.
- One of these two must be female
- Juvenile Justice Boards have the power to recommend sending delinquent juveniles to any of the following: observation homes, protective homes, special homes, etc.

## **Is women's work worthless?**

### **Contribution to GDP**

- Statistics show that only 22% of women in India contribute to the country's economic growth.
- This does not mean that other women do not work at all
- Almost 70 percent of women work in agriculture for very little or no wages
- According to a 2019 study by the Organization for Economic Co-operation and Development, women in India do 577% more housework than men.
- Any labor that is not converted into cash is not included in the country's GDP
- By imposing heavy manual labor and unpaid domestic work on women, an image is created that women are less important to the economic development of the country.
- But it is not a random phenomenon that men perform tasks such as cooking, washing, and child-elderly care in an institutionalized setting outside the home and that they acquire economic or market value.
- A deliberate act of neglecting women's labour.
- Women participating in the public economy are paid, recognized and promoted at a lower level than men, even though their work is equal to or greater than that of men.
- When men do not share the housework, the burden of managing both the home and the workplace falls on women
- However, the President has said that change can be started even from this point
- Families should empower women so that they can attain high positions without any hindrance.

## **Is the influx of North Indian workers a blessing or a curse?**

### **Background of arrival**

- Southern states including Tamil Nadu have achieved more socio-economic development as compared to northern states
- Tamil Nadu alone contributes 8.8% to India's GDP

- It is second in national contribution
- Tamil Nadu has the largest number of industrial companies in the country
- Our state also excels in social development
- School completion and college enrollment rate in Tamil Nadu is twice the national rate.
- Tamil Nadu continues to be at the top in terms of completing the highest number of PhDs in India.
- It says that 32 of the top 100 colleges in India are in Tamil Nadu.
- Our state has also progressed in the National Institutional Ranking Framework and Health Indexes, per capita income.
- The number of Tamils who migrated to other states and other countries after pursuing higher education is estimated to be approximately 50 lakhs.
- According to the Family Welfare Census, the birth rate in Tamil Nadu has fallen to 1.7 while the national average is 2
- Thus, the socio-economic development in Tamil Nadu, along with low birth rate and population decline, has resulted in a shortage of manual laborers.
- This shortage has driven north Indian workers towards Tamil Nadu.

### A growing hatred

- The movement of people towards developed areas is common all over the world
- Canada, which continues to rank first in the Human Resource Index, has decided to immigrate 1.5 million foreigners by 2025.
- The influx of North Indian workers towards Tamil Nadu is also inevitable according to socio-economic metrics
- They work 12 hours a day for a monthly salary of Rs 10,000
- Without job security and social security, they are separated from their families and live in poor housing.
- It is worrisome that there has been an increase in hatred towards such casual laborers in Tamil Nadu
- In fact this trend is against the 15<sup>th</sup> anti-discrimination clause and 23<sup>rd</sup> clause guaranteeing freedom of livelihood of Indian constitution.
- The basis of fascism is the fear spread among the majority that our rights, economy, education and employment are being affected by the minority.

### Settlements of Tamils

- Remittances from our diaspora also play an important role in India's revenue
- Forgetting all this, spreading hatred against the simple laborers of the North who are taking pills to relieve their physical pain can only be fueled by racial hatred.
- Their labor is involved in everything from big buildings, highways, metro trains, micro-enterprises being built in Tamil Nadu.

## Things to be done by Govt

- When Tamilnadu is moving towards a trillion economic dream, it is not right to stop foreign workers from coming here in large numbers.
- If we don't fill this gap due to less manual laborers and increasing high literacy rate, Tamil Nadu's productivity will collapse.
- The state government should set up a welfare board for the North Indian workers who are working here without any formal platform
- Regulate their business practices and ensure provident fund, accident and medical insurance, occupational safety etc.
- It will be a crown jewel in the history of social justice.

## **100 day work plan**

- Union Rural Development Minister Giriraj Singh has said that the participation of state governments in providing wages under the Mahatma Gandhi National Rural Employment Guarantee Scheme should be mandatory.
- The central government created this scheme in 2005 considering the livelihood of rural people
- This ensures at least 100 days of employment to rural people in a financial year. Hence it is called as 100 day program
- Last month, the central government sent a circular to the state governments that the wages of those working under the scheme will be paid to the account linked to the Aadhaar number. It has been introduced from 1st February.
- Economist Jean Drèze, who has researched the scheme, pointed out that it would be impossible for 57% of its users, while for the rest it could be implemented with great difficulty.
- And in the central government's financial report, the funding for this project has decreased by 33%
- Against a requirement of Rs 1.24 lakh crore for 40 days of employment, the central government has allocated only Rs 63,000 crore.
- The scheme also left state governments with over Rs 6,000 crore arrears on wages
- Despite the 100-day employment guarantee, based on data up to January 2020, only 42 days of employment were provided per household on an average.
- Payment should be made within 15 days of completion of work
- But due to the delay in payment of wages, the National Human Rights Commission has sent a letter to the central and state governments asking for an explanation
- It has been directed that attendance registration for this scheme should be done through mobile application only
- This causes problems in rural areas where internet access is not fully accessible.

- The central government has said that there will be no compromise in this while the protest against this is going on
- It has also emphasized the contribution of the state governments to eliminate the irregularities in this project
- The scheme, which was started for the basic livelihood of the rural people, is gradually eroding, as can be seen from the amount of funds allocated to it.
- The days of employment are also decreasing
- In this case, the central government should create mechanisms for the users to use this scheme properly.
- Instead, users should not be moved too far from the project.

## First class admission at the age of six

### NEP 2020

- The central government has asked all the state and union territory governments to fix the minimum age for admission to class 1 at six
- According to the National Education Policy of the Central Government, the period between the age of three to eight years has been set as the period for basic education to provide learning opportunities to all children.
- This means that the five-year basic education program includes three years of kindergarten followed by grades one and two.
- The Central Government has given this instruction to all the State Governments in order to fully implement it
- Education policy promotes access to skill development through seamless learning for all children from pre-kindergarten to second grade
- Thus the objective of National Education Policy can be attained only when all children get quality education through Anganwadis or government and government aided schools or private schools for the first three years.
- Therefore only children of at least six years of age or above should be enrolled in the first class.
- Last year, the Supreme Court also emphasized in a case that children should not be sent to school at a very young age considering the psychological and mental welfare of the children
- Besides, it is important that qualified and properly trained teachers are appointed for this basic education of children
- For this, the Union Ministry has directed the states to take steps to introduce a two-year diploma program in pre-school education.

## Menstrual leave

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- The Supreme Court dismissed the plea seeking leave for girls studying in schools and colleges and women working in offices
- Menstrual pain in women is similar to the pain experienced by heart attack patients
- It is necessary to give them a holiday during this period
- In the states of Bihar and Meghalaya, both the state governments have made it legal to take menstrual leave
- Menstrual leave is also provided in many foreign countries
- Following these, female students studying in schools and colleges, women working in offices should be given leave during menstruation.
- The Supreme Court should order the Central and State Governments in this regard.

### Government policy decision

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- There is no denying that women go through various hardships during menstruation
- As this matter depends on the policy decision of the Government, we cannot accept the petition for hearing and dismiss it
- However, the petitioner can present her claim to the Central Department of Women and Child Welfare

## Unconditional pension

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- Started in the year 1962 under the name Tamilnadu Old Age Grant Scheme
- During the inception of the scheme, a monthly stipend of Rs.20 was provided (3 grams of gold can be bought for Rs 20 back then)
- Gradually this stipend has been increased and now Rs.1000 is given monthly
- This thousand rupees is the pension for all those involved in the construction of government buildings, road construction for transportation, auto drivers, weavers, tailors, farmers.
- The central government has fixed the minimum wage of Rs 281 per day for those working under the Mahatma Gandhi National Rural Employment Guarantee Scheme.
- In 2017, Aadhaar card linking was made mandatory for all those receiving incentives under these schemes.



- While 34.26 lakh people were receiving stipend, Aadhaar linking made 7 lakh people excluded from receiving old-age stipend in a single year.
- The allowance was stopped for the elderly on the grounds that they had their own houses and were among relatives.
- Many projects undertaken by Tamil Nadu are exemplary for other states
- Similarly, old age pension should also be provided without any conditions
- There should be a change in the old age pension scheme so that all unorganized workers get guaranteed pension once they reach the age of 60.

## Grade 1 - at the age of 6

- In some states including Tamil Nadu, New Delhi, Rajasthan, Odisha, Andhra Pradesh, Telangana, five-year-olds are enrolled in the first class.
- But in states like West Bengal, Maharashtra, Uttar Pradesh, the age for admission in class one is 6
- In states like Karnataka and Goa, children who have completed five years and ten months are enrolled in the first class
- The Central Government has directed all the states and Union Territories to enroll only those who have completed 6 years of age in the first class in all schools.

### 5+3+3+2

- The 5+3+3+2 system has been introduced in the National Education Policy introduced in 2022
- In which the first three years out of five years are said to be kindergarten education
- For this, the Ministry of Education is going to develop a four-phase national curriculum framework for teachers and students.

### Jaadui Pitara

- Union Minister Dharmendra Pradhan has launched a learning tool called Jaadui Pitara (Magic Box) in 13 languages to teach children in Anganwadis and central government schools in the first three years.
- It includes a book of games, puzzles, toys, puppet shows, a book of children's stories, a teacher's manual and more.

**03**

# Indian Polity and Emerging Political Trends

## Collegium practice

### Collegium

- The collegium is the body empowered to appoint judges of the Supreme Court and High Courts.
- The institution of Collegium does not find place in the Constitution or in any Act unanimously passed by the Parliament.
- This collegium system was formed by the judgments of the Supreme Court.

### Composition

- A collegium is a body with 5 judges as members.
- This body consists of 4 judges headed by the Chief Justice.
- The collegium structure is headed by the Chief Justice and 4 judges.

### Role of Collegium

- High Court judges are appointed only through collegium system.
- The role of the government is only after the names are decided by the collegium.
- The names recommended for appointment by the High Court Collegium reach the Government only after the approval of the Chief Justice.

### Investigating...

- The role of the government in this whole process is only to get an inquiry conducted by the Bureau of Investigation if a lawyer wants to be elevated as a judge in the High Court or the Supreme Court.
- At the same time, the government may object to the collegium's selections.
- It can also ask for the necessary clarifications.
- But the government cannot say that the nominees cannot be appointed as judges if the collegium recommends the same names again.

### Constitution

- Articles 124(2) and 217 of the Constitution deal with the appointment of judges to the Supreme Court and High Courts.
- Nominations are approved by the President.
- There has been a demand for consultation with Supreme Court and High Court judges.
- The Constitution does not provide any norms for doing so

- Article 124(2) defines that every Judge of the Supreme Court shall be appointed by the President.
- Similarly, Article 217 states that every Judge of the High Court shall be appointed after consultation with the Chief Justice of India and the Governor of the State.

### First Judge Case

- In the case of SP Gupta vs Government of India in 1981, it is clear from the majority judgment of the Supreme Court that the primary opinion of the Chief Justice is not really rooted in the Constitution.
- A proposal for appointment to a High Court may emanate from any Constitutional Secretary referred to in Article 217, not necessarily from the Chief Justice of the High Court.

### 2<sup>nd</sup> Judge case

- The judgment in the First Judges case tilted the balance of power in the appointment of High Court judges in favor of the administration.
- In 1993, the case was heard by a 9-judge Constitutional Bench.
- It emphasized the need to protect the integrity and independence of the judiciary.
- It gave preference to the Chief Justice in matters relating to appointment and transfer of judges.
- It also noted that the word advisory as used in the political system does not diminish the role of the Chief Justice in judicial appointments.

## **Appointment of Judges**

- The hallmarks of a strong democracy are:
- An independent judiciary
- Trusted media
- Independent Election Commission
- An immovable parliament
- Knowledgeable Management System

### Article 124(2)

- Article 124(2) of the Constitution of India defines the procedures for appointment of judges
- It states that the government should consult the Chief Justice of the Supreme Court while appointing judges other than the Chief Justice of the Supreme Court
- Accordingly, from 1950 to 1993, judges were appointed by the Central Government in consultation with the Chief Justice.

### First Judges Case

- In 1981, a 5-2 majority verdict by a seven-judge bench in SP Gupta's case against the state marked a turning point.
- The case is known as the First Judges case

- In this case, the Supreme Court ruled for the first time that advice and consent are not the same thing.
- Based on that, the government was given the right to accept or reject the advice given by the Chief Justice of the Supreme Court
- At the same time it was decided in the First Judges case that the opinion of the Chief Justice of the Supreme Court should be overruled only in very rare cases and if such overruled it could be subjected to judicial review.

### Second Judges Case

- 12 years later in 1993, the Supreme Court Bar Association filed a case against the verdict
- In what is known as the Second Judges Case, the verdict of the First Judges Case was overturned
- It was held that the word 'advice' mentioned in Articles 124 and 217 of the Constitution should be construed as consent and the advice of the Chief Justice of the Supreme Court would be the final decision.
- The collegium system was introduced only in the Second Judges' Case
- The Second Judges Case established that appointments and transfers of judges will be decided on the basis of consultation by a collegium comprising senior judges of the Supreme Court and High Courts.

### Third Judges Case

- In 1988, the collegium system was again questioned
- The number of members of the Collegium for Appointment of Judges has been increased from 3 to 5 based on the clarification sought from the President.
- There were 9 judges sitting in that case, known as the Third Judges case
- The Bench made it clear that 'advice' as found in Article 124 and 217 of the Constitution is not merely the opinion of the Chief Justice of the Supreme Court but the opinion of the majority of the judges of the collegium.
- The judgment clarified that the Supreme Court collegium would consist of four senior judges along with the Chief Justice and the High Court collegium would consist of two senior judges along with the Chief Justice.
- When the NDA government came to power, the BJP tried to reform the judiciary
- The then Law Minister introduced the 121st Constitutional Amendment Bill to set up a National Judicial Appointments Commission
- The bill was accepted by almost everyone in Parliament and passed by both houses.
- 16 state legislatures passed resolutions supporting it
- It also became law after the assent of the President
- In this regard, the Fourth Judges case was held in the Supreme Court and the National Judicial Appointments Commission Act was rejected
- In the same case held in October 2015, the National Judicial Appointments Commission Act was struck down by a 4-1 majority in a 5-judge session.

- It was also argued that the government's dependence on the appointment of judges would affect the independence of the judiciary
- The judgment is over a thousand pages long.

### Contradiction

- In a democracy, the House of Representatives elected by the people is sovereign
- The irony here is that people's representatives have no role in the appointment of judges
- Even if a judge is to be removed, impeachment against the judge must be passed by a majority vote in a meeting of both houses of Parliament
- Apart from that, the constitution has prohibited discussing judges in parliament.

## 7 new regiments

- The Central Government has approved the creation of seven new units to strengthen the Indo-Tibetan Border Police Force, which is engaged in security operations along the Line of Control between India and China.
- 90,000 soldiers were formed to protect the 3,488-kilometer Line of Control between the two countries following China's encroachment in 1962.

### An all-weather tunnel

- The Union Cabinet on Wednesday approved the construction of the 4.1-km long Shinkunla tunnel connecting the Nimu-Padam-Darcha road to ensure uninterrupted all-weather traffic in the border areas of Ladakh.

## UAE India signs historic deal

- Increasing exports by obtaining duty-free or duty-reducing services for more than 80 percent of manufactured goods.
- Increasing investment opportunities in priority sectors.
- Providing opportunity for cooperation in small and medium enterprises.
- The agreement allows for free trade with the world's fifth largest economy.
- As far as India is concerned, the deal is an entry point for emerging economies in the Middle East and North Africa region
- By 2022, non-oil bilateral trade had reached 49 billion dollars
- India's exports to the UAE have grown by 26 percent.

## India - China

### Export - Import

- Trade between India and China stood at \$135.98 billion (about Rs. 11.24 lakh crore), a 21% increase from \$97.5 billion (about Rs. 8 lakh crore).

- Imports rose to \$118.5 billion (about Rs 9.8 lakh crore).
- At the same time, India's exports declined from \$28.1 billion (about Rs 2.32 lakh crore) to \$17.48 billion (about Rs 1.44 lakh crore).

### Imports are high

- The trade deficit has widened to \$101.2 billion (about Rs 8.37 lakh crore) in 2022 from \$69.4 billion (about Rs 5.74 lakh crore) in 2021.
- There has been an increase in imports from China of components required for the production of goods and raw materials required for the manufacture of pharmaceuticals
- Iron ore, cast iron, aluminum, and navaratna stones are exported to China from India
- Medicines and IT software from India are banned in China
- Therefore, the trade gap in India-China trade is increasing

### Ban

- Following border tensions, India has banned 224 Chinese apps, including TikTok, as well as Chinese 5G communication technology.
- It is not possible to ban all Chinese imports places at once
- Avoiding contact with China altogether would be tantamount to withdrawing from international capital, technology and supply chains.
- It will be disadvantageous to us than China.

### Permits

- 14 Chinese companies that manufacture Apple components including Luxshare, Sunny Optical, Poshan have been given permission to set up their factories in India.
- Apart from Apple, they manufacture and supply spare parts to many multinational IT companies
- There is no doubt that granting permission to those companies will bring about a huge change in electronics manufacturing in India.
- Approval has been given for battery technology in the manufacture of electric vehicles, especially electric two-wheelers.
- All these will help increase exports in India. It also provides access to technology and capital
- There is no need to worry about the \$100 billion deficit in India-China trade as imports are higher than exports
- It is no mistake that low-cost components and basic sources are imported to boost economic growth and overall exports
- It is not wrong to reduce and if possible stop the import of unnecessary luxury goods from China and increase the import of spare parts and raw materials required for export.
- The trade deficit with China can only be offset by increasing exports to other countries
- A complete disengagement from China would not be wise.

## New Start Nuclear Weapons Treaty

- The New Start agreement was signed in 2010 between the United States, which was the first in the world to develop a nuclear bomb, and Russia, which successfully tested the weapon
- During the Cold War, the two countries are said to have come to the brink of nuclear war several times
- Both countries are keen to avoid such a catastrophic war.
- That is why both countries have developed multi-layered security procedures to ensure that the weapons are not used in an emergency.
- In this situation, then US President Obama and Russian President Dmitry Medvedev signed the New Start Agreement to eliminate nuclear weapons.
- The agreement, which was in effect since 2011, was extended for another five years in 2021 when President Joe Biden took office.
- Currently its life span is till 2026.
- Under the treaty, both countries pledged not to stockpile more than 1,550 nuclear weapons and 700 long-range missiles capable of carrying such weapons.
- The agreement also provides for 18 annual inspections by experts at both countries' nuclear facilities to monitor non-violation of these limits.
- However, due to the Corona crisis, these mutual inspection activities were temporarily suspended.
- US-Russia talks were to be held in Egypt in November to resume mutual inspection
- But Russia shelved the plan
- Fears of a nuclear war between the US and Russia are at their highest level in 60 years due to the Ukraine conflict.
- In this context, Russia has recently announced that it will withdraw from the Nuclear Non-Proliferation Treaty.

## Ban on online gambling

### Indian law

- The Central Government's General Gambling Act, 1867, is the only gambling legislation in force in India
- This is a very old law
- Legal experts say the law cannot handle today's modern online gambling games and online casinos

### Acts of State Governments

- Controlling gambling comes under the state list
- Accordingly, the state governments should enact appropriate laws to regulate gambling within their jurisdiction

- In the absence of any specific central laws against online gambling games, state governments have enacted laws banning online gambling games.

### States

- The states of Delhi, Madhya Pradesh, Uttar Pradesh and Goa have passed amendments to the General Gambling Act.
- The Union Territories of Sikkim, Meghalaya, Nagaland, Daman & Diu have enacted laws to regulate public gambling under their jurisdiction.
- States like Andhra, Telangana & Odisha have banned fantasy sports and sports betting.
- Karnataka had banned all online gaming, which was overturned by the Karnataka High Court last year
- The same thing happened in Kerala.

### Why Ban ?

- Gambling involves no skills, the Supreme Court observed in a 1957 judgment
- Professional activities of these sports come under Article 19(1)(g) of the Constitution
- It is the right to carry out legal professions and trade
- In 1968, the Supreme Court ruled that Rummy was not a purely chance-based game like "Three Card".
- Sorting and discarding cards in rummy involves considerable skill
- The Supreme Court held that a gambling is not a game where the chances of winning depend to a considerable extent on skill
- Even as state governments enact laws against gambling-style online games, including rummy, the same argument is put forward by online gaming companies.

### What is the status of Tamil Nadu?

- The Madras High Court struck down the Prohibition Act brought in 2020
- Following this, the Tamil Nadu government passed a new bill as per the recommendation of a committee headed by former High Court judge K.Chandru
- It is awaiting Governor's approval
- The Bill has been introduced to differentiate between skill and chance in online gambling

## **Extension of 22nd Law Commission tenure by one and a half years**

- It was approved to extend the tenure of the 22nd Law Commission till August 31, 2024

### Tasks

- Finding inappropriate laws



- Recommending to the Central Government to repeal ineffective laws
- Recommending necessary new laws
- Expressing opinion on any matter referred by the Government in relation to law and administration of justice
- The Commission will continue to carry out the work of submitting reports to the Government from time to time on the matters dealt with by the Commission and the investigations carried out.

## Smart Barrier Fence

- Smart barrier fences with state of the art rustproof and tamper proof to prevent intrusions along India Pakistan border.
- Along the India-Pakistan border are the states of Jammu and Kashmir, Punjab, Gujarat, and Rajasthan.
- In this, the infiltration of terrorists in the border areas adjacent to the states of Kashmir and Punjab often happens
- Pakistani residential areas are located at a distance of 3.2 km from this border control area
- But in India, settlements are located only after 60 km from the border. Take advantage of this and let Pakistan infiltrate the border area through civilians.
- This scheme was implemented in 2018.
- Smart barrier fencing under the Integrated Border Management Plan is crucial
- The border between India and Pakistan extends to 3,323 kilometers
- It is difficult to climb over the smart barrier fence that even a finger cannot penetrate
- At any time, anyone touching this stainless steel impenetrable fence will immediately send a signal to the security forces in the area.
- Apart from this, this modern smart barrier fence has various facilities like monitoring through surveillance cameras.

## National party status

- A party needs to win 3% of its seats in the state to get the status of a state party
- Or getting 6% votes and 2 constituencies to get state party status.

### Rule in 2 states

- The Aam Aadmi Party, which formed the government with a single majority in two states, secured a 12.92% vote share in the Gujarat elections.
- In Goa too, the party got state status, making it a national party.

## Cancer

### When will cancer end?

- The cancer incidence rate has been increasing by 6% to 8% annually for the past ten years
- According to 2021-22 statistics, there are 34,80,447 cancer patients in India.
- It is said that 2,04,535 people have been infected in Tamil Nadu and 81,814 new cases have been confirmed in the tests.
- Nationally, women are more prone to cancer than men.
- Colon, testicle, pancreas, thyroid, liver etc. are more affected by cancer.
- South India is more affected than other states.

### Tamil Nadu

- In Tamil Nadu, the 2021-22 survey revealed that 7 out of 1 lakh men have colon cancer, 6.5 men have mouth cancer and 6.3 men have lung cancer.
- It is estimated that 27 out of 100,000 women suffer from breast cancer, 18 from cervical cancer and 6 from ovarian cancer.
- If the national rate is 90 per lakh, in Tamil Nadu it is 96.1 per lakh.

### Reason

- Lifestyle changes are said to be responsible for the incidence of cancer.
- Anti-tobacco awareness campaigns have reduced smoking to some extent.
- Widely increased consumption of alcohol leads to liver, pancreatic and intestinal cancer.
- Another reason is fast food which is high in salt and fat.

### Treatment

- Three types of treatment are given: surgery, radiation therapy, and drug therapy.
- Although pharmacologic treatment and surgery are offered in many hospitals, hospitals with radiation therapy facilities are recognized as specialty medical centers for cancer.
- After the death of Anna, who was the Chief Minister of Tamil Nadu due to cancer, there was widespread awareness in the state.
- As far as cancer is concerned, it is very important to give the sufferers confidence that they can be cured with treatment once the disease is diagnosed.

- Often, patients seek medical advice only when the disease has progressed.

### Conclusion

- Medical science has been struggling for years to find a cure for cancer.
- Let's pray for success in that fight on Cancer Day.
- Let us create widespread awareness among people about cancer.

## **Green Hydrogen Energy**

### 12% by 2050

- Hydrogen will meet 12% of the world's energy needs by 2050, according to the International Renewable Energy Agency.
- Of this hydrogen required, 66% must be generated from water rather than natural gas
- Currently, less than 1% of the hydrogen used for energy needs is green hydrogen

### **Current Status**

- Currently hydrogen production is based on fossil fuel technologies
- Globally, one-sixth of hydrogen is produced as a by-product of petrochemical refining.
- Green hydrogen with low carbon footprint is produced by electrolysis of water using renewable energy.

### Electrolysis

- According to the International Renewable Energy Agency, green hydrogen production will increase from the current production capacity of 0.3 GW to about 5000 GW by 2050 due to the production and use of power generators.
- Hydrogen production has risen from less than one percent in 2020 to 9 percent in 2021 as electrolyzers with a capacity of 200 MW, including 160 MW in China and 30 MW in Europe, come online.
- The current price of green hydrogen per kg ranges from around Rs 406 to around Rs 488 (5 to 6 USD)
- This is almost 3 times the cost of ash hydrogen produced from natural gas.

### Cost

- But by 2030, the cost of green hydrogen is expected to be much lower than that of organic fuels.
- As production and sales increase, prices may fall further
- India's hydrogen demand is projected to increase 5-fold by 2050, with green hydrogen meeting 80% of that demand.
- Hydrogen use in high heat production can reduce fossil fuel consumption
- By doing this, greenhouse gases emissions can be reduced to a moderate extent

## Paris agreement

- This will enable India to meet its commitment to reduce greenhouse gas emissions by 33% to 35% between 2005 and 2030 under the Paris Climate Agreement.
- India to emerge as net exporter of green hydrogen by 2030 due to affordability of renewable energy, says Global Hydrogen Council
- India's geographic location, sunlight-rich air, etc. are favorable for green hydrogen production.

## **New opportunity in energy sector**

- The arrival of this 20% ethanol blended gasoline, named E20, will bring down the cost of fuel significantly.
- Air pollution will be reduced and vehicle wear and tear will come under control.
- Solar double cooker will be provided to 3 crore households in next 3 years.
- Its arrival will bring about new changes in Indian cuisine.
- India is the world's second largest producer of cell phones and fourth largest producer of crude oil.
- Budget 2023-24 allocates Rs 10 lakh crore for capital expenditure on green energy generation.

## **SSLV-D2 Rocket**

- SSLV-D2 rocket carrying Earth observation satellite EOS-07 launches from Sriharikota on Feb 10.
- A lightweight rocket project designed to launch a small satellite.

## Rocket

- The Indian Space Research Organization is implementing communication, remote sensing and guidance satellite programmes.
- For that, the satellites are positioned in the sky using PSLV GSLV type rockets.
- In this, satellites weighing up to 1,750 kg can be launched by the PSLV rocket and up to 4,000 kg by the GSLV rocket.
- ISRO's newly designed SSLV rocket is small enough to carry satellites weighing up to 500 kg into low-Earth orbit.
- Its maximum weight is 120 tons.
- The EOS-07 satellite will help in coastal land use and regulation, urban-rural management, demarcation of wasteland, etc.

## **Google Bard**

## ChatGPT

- Google is set to launch Bard as a competitor to artificial intelligence platform ChatGPT.
- ChatGPT is a conversational information service powered by artificial intelligence.

- ChatGPT's ability to provide accurate answers to questions asked by users on the site has amazed everyone.
- In a short period of time it attracted many people and became hugely popular.
- Following the popularity of ChatGPT among the public, efforts are underway to integrate ChatGPT into Microsoft's search engine, Bing.
- For this, Microsoft has invested millions of dollars in OpenAI, the company that developed ChatGPT.

### Sundar Pichai

- In a statement released by Sundar Pichai, Bard will be a gateway to creativity and a launch pad for curiosity.
- Difficult information about NASA's James Webb Telescope is made simple enough for a 9-year-old student to understand.

## **S-400 missile**

- In 2018, India signed a \$5 billion deal to buy S-400 air defense missiles from Russia.
- Russia supplied these missiles to India despite US sanctions warning.
- The D-90 tank Sukhoi fighter jets and AK-203 rifles production program in India are fully compliant with the make-in-India norms.

## **SSLV D-2**

- SSLV D-2 rocket successfully launched from Sriharikota space launch site
- Indian Space Research Organization's PSLV rocket can launch satellites weighing up to 1,750 kg and GSLV rocket up to 4,000 kg.
- ISRO is developing new small SSLV rockets to carry lightweight satellites into low-Earth orbit.
- Its weight is 120 tons
- The cost will be around Rs 30 crore.

### In the 15<sup>th</sup> minute...

- In the 15th minute after liftoff, the satellite entered Earth orbit as planned at a distance of 450 km.
- Subsequently, Space Kidz India's AzaadiSAT-2 satellite and USA's JANUS-1 satellite were successfully deployed.

### EOS-7

- The primary satellite, EOS-7, weighs 156 kg
- It will be used for earth observation, research work for future needs
- AzaadiSAT-2 satellites were jointly developed by 750 students across the country.

## Song

- "Space song" was played
- Music composer Devi Sri Prasad composed the music for this song.

## **Cervical cancer vaccine**

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- After breast cancer, cervical cancer is the second most common cause of women worldwide
- It has been decided to administer the HPV vaccine in Tamil Nadu, Karnataka, Chhattisgarh, Uttar Pradesh and Maharashtra in the first phase.
- Details of school girls in Tamil Nadu between 9 years to 14 years are being collected
- Information about this from the concerned schools have also been sought
- After distribution of vaccines by the central government, it is planned to provide them in a refrigerated manner to the beneficiaries in their schools and Anganwadi centers.

## **ChatGPT**

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- ChatGPT which answered all the questions in medical final exam in half an hour, has sent thousands of software engineers, who write coding, home.

## More than Google...

- We go to Google and type in the question, don't we?
- It is a software. It is also a form of artificial intelligence
- Google uses a PageRank algorithm called Random Search
- While searching the web and picking up where relevant data is available to populate the screen, it also compiles the list and sorts it accordingly.
- In doing so it acts in five ways
- First, it accept our input in a natural way and act on it
- Predicts what the interrogator's need might be
- It determines the classification of our search based on what we have already searched for
- While sorting the various collected internet data, the date range is sorted by the most recent first
- The algorithm works like sorting by words
- We complete our search with the data provided by the Google search engine.
- If not satisfied we continue again.
- But ChatGPT does all that work itself and gives us only the final answer.
- Robotizing human work.

## Self-learning enhancement

- ChatGPT is developed by OpenAI.
- Founded in 2015 by Elon Musk and Sam Altman, the company developed a technology called InstructGPT in 2020.
- GPT stands for Generative Pre-Trained Transformer, Artificial Intelligence Processing.
- ChatGPT is a mine of wonder when it comes to computer software programming.
- Software works effectively for people like an expert who is highly skilled at writing programs.
- Even if half the coding is given, the rest will be filled in and it gives the final shape.
- This virtual robot, which uses artificial intelligence, is entirely conversational.
- A large amount of data can be stored.
- It will search through its already saved sentences and understand them in real-time.
- It is a self-learning optimization robot.
- It automatically learns from questions given by users.

## Challenges await

- Apart from English there are mistakes in the sentence structures of the answers provided by ChatGPT in languages like Tamil.
- Let's see, ChatGPT is going to shock us in what ways.
- Given the right hypothesis, a full research report with some clarity might be given, which helps in getting a 'PhD'
- Everything from normal school student assignment to college university exam is possible with this technology.

## **Artificial Intelligence**

- It is emerging as the next milestone in technological development
- Artificial intelligence is about making machines think like humans
- Artificial narrow intelligence: Like a human brain, it spontaneously makes new decisions over given training
- Artificial General Intelligence: Artificial intelligence that combines the skills of billions of human and animal brains.

## Artificial narrow intelligence

- Artificial intelligence technology is now mostly referred to as Artificial Narrow Intelligence - Artificial General Intelligence, which can analyze data and provide results in the blink of an eye.
- But nothing new can be done

- Artificial intelligence needs to be given a lot of data to work well
- Collecting this data can be a huge task
- Artificial intelligence is widely used in various fields such as medicine, business, education, finance, law, banking, transportation, security, manufacturing.
- Application of artificial intelligence technology will revolutionize Indian justice sector.
- It should be noted that Supreme Court Justice Hima Kohli says that this should not be seen as a threat.
- It is predicted that AI technology will accurately predict the nature of a case.
- Artificial intelligence will draw the picture we want, write poetry, write books.
- ATM is basically powered by artificial intelligence technology.

### Automation

- It is predicted that many new innovations can be made by using this technology in robots
- Artificial intelligence is linked to automated technology called automation.
- As a result, the amount of work done through automated tools is expanding.
- Setting up AI-based machines, computers, etc. incurs huge costs.
- Repairs and maintenance cost a lot of money.
- And AI software needs to be continuously updated.
- For example, even if you forget, your AI tool will complete the task on time.
- That makes it a challenge to recover those codes if the software crashes or forgets to update.

### Shortcomings

- Machines with AI will not have the emotions, morals, and managerial skills that humans have
- It is true that machines are more efficient compared to humans
- But no matter how intelligent a machine becomes, it cannot evolve into a human being
- The rapid development of artificial intelligence technology, which is currently creating jobs in the field of mathematics, is also moving mankind to the next level.
- Although AI technology is based on the performance of the human brain, and it completes given tasks at lightning speed, the brain of the user of this technology gradually loses the ability to think.
- Users become more lazy and have poor physical health
- Most companies have started turning to artificial intelligence or automation technology to replace minimally qualified people to do the same job.
- Artificial intelligence technology has begun to take over most repetitive tasks



- We have to be ready to adapt to changes
- New skills should be learned to get new jobs
- Even with the computer revolution of the 1980s, there was a fear of job loss
- Then little by little people switched to its way
- Artificial intelligence technology has begun to take over most repetitive tasks
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- Then little by little people switched to its way.

## First Hybrid Rocket

- First hybrid sounding rocket successfully launched from Mamallapuram with 150 satellites
- The rocket was launched from Pattipulam village located in Mamallapuram, Chengalpattu district
- The rocket traveled about six kilometers and reached the target as planned
- The 150 micro-satellites inside it analyzed and transmitted data on weather, radiation, carbon dioxide levels, air toxicity and atmospheric conditions.
- In total 15 minutes, this rocket and satellite project was successfully carried out
- After that, the rocket and the satellites fell into the sea as planned.

## The spacecraft was sent by Russia

- Russia sends its Soyuz spacecraft to rescue three US and Russian astronauts stranded on the International Space Station
- They were sent to the center in September last year by a Soyuz MS 22 spacecraft
- They were scheduled to stay there for six months
- However, last December, a small debris leak leaked coolant from the Soyuz-MS 22 spacecraft docked at the ISS.
- It was discovered that the occupants would not be able to withstand the frictional heat of the atmosphere when the astronauts returned to Earth using it.
- The decision was made to send the Soyuz MS 23 spacecraft empty next month with new explorers to bring back the three astronauts stranded on the ISS.

## Chat GPT

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- OpenAI, a US-based startup, has brought its artificial intelligence software, ChatGPT, to public use
- Within three months of its launch, more than 10 crore people have registered themselves on ChatGPT

### How does ChatGPT work?

- GPT stands for Generative Pre-trained Transformer
- Generative is the ability to produce a response like human conversation
- Pre-trained denotes how to use data on the internet has been trained perviously
- Transformer refers to the technology for responding the analytic data.

### What changes will it bring?

- It will bring about a big change in the way we think, work and act
- Industry, medicine, education, financial services, telecommunications, software, justice, transportation, manufacturing, tourism, entertainment, advertising, consumer services etc. are about to take a new evolution.
- Students can learn their subjects through ChatGPT without any help
- Teachers can also enrich their syllabi through ChatGPT
- It will be very helpful for research work
- In the field of medicine, people can learn about their diseases, their causes and solutions via ChatGPT.
- It can analyzes clinical test results and advises the doctor
- They say ChatGPT will soon play a major role in psychiatric counseling services.
- It is said that if ChatGPT is used in the judiciary, judgments can be given quickly in lakhs of pending cases
- A recent court ruling in Colombia using ChatGPT is seen as a landmark case
- Companies can enter their business plans and get advice
- It is said that ChatGPT will take care of the programming work henceforth.

### Challenges

- Not all answers provided by ChatGPT are correct

- It also provides wrong information
- Reliability: ChatGPT gives us the answer based on the information on the web
- The reliability of information available on the Internet is questionable
- ChatGpt is likely to cause job losses in various sectors
- Experts warn that if students write essays with help of ChatGPT, their ability to think for themselves will suffer.

### A new game has begun

- These are challenging times for Google
- Google is developing a software called 'Bard' similar to ChatGPT to strengthen itself
- Using ChatGPT's arrival as an opportunity, Microsoft has embarked on an attempt to take Google's place

## **Pamban Bridge**

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- The first railway bridge was built during the British rule on the Pamban Sea to connect the Bagh Strait-Gulf of Mannar sea.
- Work on the Pampan Railway Bridge was completed in December 1913, with a Scherzer double-leap cantilever suspension bridge that opens as ships pass.
- Subsequently, on February 24, 1914, rail traffic started on this bridge, and on the same day, ship traffic started between Dhanushkodi and Thalaimannar.

### Scherzer

- The Pampan Railway Bridge was built on 144 piers, spanning 2,065 meters in the sea between Pampan-Mandapam. A double candy lever suspension bridge was built 41 feet above sea level and 124 feet deep on two giant piers that open as the ship passes.
- There is a 457 tonne suspension bridge to support the train on it. When the rotating wheels attached to its four ends rotate, the suspension bridge opens on both sides to allow the ship to pass. When it returns to its original position, the trains run.
- The suspension bridge is named after the German engineer Scherger who designed and built it.

**05**

# Tamil Society

## Open Air Museum in Sivakalai

### Excavation works

- Excavation works have been carried out by the Tamil Nadu government at Adichanallur near Srivaikundam, Shivalagi near Eral, Korkai and other places in Thoothukudi district which are the cradle of civilization of ancient Tamils.
- Excavations in three phases at Shivakalai Parumbu area have yielded many items such as jar burials, earthenware, iron items, copper coin, spinning wheel, stone for grinding metals, ceramic bangles, gold ornaments etc.

### Open Air Museum

- In the Sivakalai Parumbu area, iron sheet roofs have been erected at a total cost of Rs 23 lakh at 2 excavated sites in the first phase for the purpose of setting up an open air museum.
- An open-air museum will be set up so that the public can easily see the antiques including old people's talismans in the excavation pits.

## Keezhadi excavation site

- Thousands of antiquities have been found in different stages of excavation near Tiruppuvanam in Sivaganga district.
- The excavation site is constructed with separate buildings for metal objects, pottery objects, ancient building models, earrings and gold objects.
- Artifacts found in underground excavations are known to be 2600 years old
- It has been revealed that the Tamils were living with civilization 4000 years ago through the artifacts found in the underground excavations.
- A new Excavation Building has been set up at a cost of Rs 11.03 crore with Chettinad artistry so that people from different parts of the world can easily see and learn about the artifacts found in the excavations.

06

# Geography

## Earthquake in Turkey

- Turkey is located in West Asia and Southeast Europe
- At 4:17 a.m. yesterday morning, a terrible earthquake struck the southeastern part of the country centered on the city of Gaziantep
- The earthquake, which occurred at a depth of 24 kilometers underground, was recorded as 7.8 on the Richter scale
- Ten provinces of Turkey were severely affected
- Plates move when pressure builds up underground and energy is released.
- Earthquakes are caused by the movement of these tectonic plates
- Turkey is located on the Andolian Plates
- This plate is sandwiched between the Eurasia, Africa and Arabia plates
- Turkey is sandwiched between the moving African-Arabian plates
- Because of this, the biggest earthquakes occur in that country.

## Earthquake

### Turkey-Syria

- The news that the death toll from the powerful earthquake in Turkey-Syria has exceeded 11,000 and millions of people have lost their homes is sad and shocking.
- The earthquake was centered in the city of Pazarcık in Kahramanmaraş province in southern Turkey, a Middle Eastern country.
- The 7.8-magnitude earthquake struck 10 provinces in Turkey and neighboring Syria.

### Buildings are the cause

- Earthquakes are not new to the region of Turkey as it is located in a region where the tectonic plates collide.
- But technology and science have advanced immensely
- During this period, buildings are built to withstand earthquakes
- However, experts say that the recent earthquake in Turkey has caused buildings to collapse in a so-called pancake collapse.

- Although the magnitude 7.8 earthquake was powerful, President Erdoan blamed poor buildings for the high loss of life, adding that indifference to the matter was tantamount to complicity in murder.
- Most of the buildings were flattened as if they had been bombed because their foundations had weakened and collapsed.

## Operation Dost

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- Special teams sent by India to the earthquake affected areas in Turkey have started rescue and relief operations named Operation Dost.

## High grade lithium reserves in Jammu and Kashmir

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### Reasi Dt.

- The country's first lithium reserve was discovered in Jammu and Kashmir and is of high quality
- Lithium is considered an important mineral for the production of batteries and solar panels for electric vehicles
- A two-year survey by the Geological Survey of India in Kashmir's Reasi district has identified fifty-nine lakh tonnes of lithium reserves.
- Through this India can achieve self-reliance in the production of electric vehicles
- Lithium in the major resource category has not been discovered in India before
- It is noteworthy that India is 100 percent dependent on imports for its needs
- Surveys conducted by the Indian Geological Department have identified high-grade lithium deposits in the foothills of the Mata Vaishno Devi temple in Salal village.
- These have more value than the average quality
- India's discovered lithium reserves of 59 lakh tonnes are more than China's
- With this, India also joins a select group of countries with lithium reserves.

## Earthquake - Turkey

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- The earth shakes during Earthquake, there is no relief, Earthquake cannot be prevented or mitigated, if precautions are taken, it can be reduced to some extent, that's all.

### Turkey - Syria

- A massive earthquake struck West Asian country Turkey at 4:17 a.m. on the 6th, shattering the country and neighboring Syria and leaving other countries in shock.
- The 7.8-magnitude earthquake was centered 34 km southwest of Gaziantep, Turkey.
- The first 72 hours are crucial when disasters like this occur and only if necessary equipment and medical facilities are available within this time frame to clear the debris and rescue the trapped people alive.

- Located like a bridge between the Asian continent and the European continent, Turkey is a peninsular country surrounded by the Black Sea to the north and the Mediterranean Sea to the south and west.
- It has already been affected by several earthquakes
- There have been 18 major earthquakes since 2000 alone
- Scientists say that because Turkey is located at the meeting point of 3 rock plates - Andolian, Arabian and African - earthquakes occur frequently and its impact is high.
- This time, reports have come out that the terrible earthquake occurred due to the collision between the Arabian Plate and the Andolian Plate.
- The entire interior of the Earth is rocky
- The upper shell of the earth is called the crust, just like the outer shell of a coconut
- It is the region between 45 to 50 km depth on land and 5 to 8 km depth in ocean.
- Apart from this, the other interior is huge rock plates full of lava
- Heat increases as you move inward towards the Earth's surface
- The temperature of the Earth's inner core is 5000 degrees Celsius
- There are seven major plates and 12 minor plates beneath the Earth
- Covering tens of thousands of square kilometers each, these rock plates range from 20 kilometers to 40 kilometers in thickness.
- It is on these plates that the five continents are located
- These rock plates move from time to time
- Then there is the clashing of one another, the crushing of one under the other, and the shattering.
- When that happens, the earth shakes, which in turn is called Earthquake
- Seawater is pushed up and to all sides when undersea plates collide or collapse.
- This is what causes tsunami waves

### Richter scale

- The intensity of an earthquake is measured on the Richter scale
- It is a mathematical method
- A mathematical method of measuring earthquakes was invented in 1835 by Charles Francis Richter, an American scientist.
- Hence this system is called Richter scale after him
- The name of the instrument used to detect the magnitude of the earthquake is seismograph.
- But there is an opinion that birds and some animals can sense the earthquake in advance
- It is said that before causing an earthquake, the birds appear slightly nervous and flit to and fro with vocalizations

## Earthquake in India

- On January 26, 2001, when the country was celebrating the Republic Day, a 7.6-magnitude earthquake occurred at 8.46 am in Bhuj, Gujarat.
- 52 villages were destroyed and 9748 people lost their lives in the 30th September 1993 earthquake in Latur region of Maharashtra state at 3.56 am.
- 8,735 people lost their lives in the 7.6-magnitude earthquake in Kashmir on October 8, 2005.
- 2000 people died and 1800 were injured in an earthquake in Uttarakhand on 20 October 1991.

## Nuclear reactor destroyed by earthquake

- On March 11, 2011, a powerful 9.1-magnitude earthquake struck under the sea 72 kilometers northeast of Japan.
- As a result, the 133-foot tsunami waves hit the Fukushima nuclear power plant on the coast.
- This destroyed the nuclear power plant

## India extended a helping hand

- India is providing various assistance to Turkey and Syria in the name of Operation Dost
- The air force is sending medical supplies, relief supplies and sniffer dogs along with the rescuers in air force planes.

## In 25 years...

- **1998 May 30** : More than 4,000 killed in 6.6-magnitude earthquake in Afghanistan's Badakhshan province
- **1999 August 17** : 18,000 people died in the 7.6 magnitude earthquake in Izmit, Turkey
- **2001 January 26** : More than 20,000 people died in the 7.6 magnitude earthquake in Gujarat
- **2003 May 21** : 2200 killed in 6.8 magnitude earthquake in Algeria
- **2003 December 26** : More than 20,000 killed in 6.6-magnitude earthquake in southeastern Iraq
- **2004 Dec 26** : A 9.1-magnitude earthquake at a depth of 10 km in the early morning near the island of Sumatra, Indonesia, and the resulting tsunami caused devastation. Due to this, more than 2.5 lakh people died not only in Indonesia but also in 12 countries including Malaysia, Sri Lanka and India.
- **2005 Oct 08** : 7.6 Richter Earthquake Kills 80,000 in Pakistan Occupied Kashmir.
- **2006 May 27** : A 6.3-magnitude earthquake killed more than 5,700 people on the Indonesian island of Java.
- **2008 May 12** : More than 87,000 killed in 7.9-magnitude earthquake in China's Sichuan province
- **2010 Jan 12** : More than 1,00,000 killed in 7-magnitude earthquake in Haiti
- **2015 Apr 25** : 7.8-magnitude earthquake kills 8,800 in Nepal



- **2018 Sep 28** : A 7.5 magnitude earthquake in Indonesia also triggered a tsunami. More than 4,300 people died
- **2021 August 14** : A 7.2 magnitude earthquake in Haiti killed about 2,200 lives
- **2022 Jun 22** : About 1,100 people died during a 6.2 magnitude earthquake in Afghanistan.

## El Nino

- It is about how the rainfall will be.
- The National Oceanic and Atmospheric Administration is the US government's weather forecasting agency.
- The organization said that average conditions will continue till July and El Nino is likely to develop after August.
- The center has now reversed its previous forecast and said that an El Niño could occur by the end of summer.

### Change

- Even if the air pressure drops slightly in the Pacific Ocean, it will result in different changes in different parts of the world.
- We should not forget that the rains in California, the heatwaves in Europe, and the severe droughts in countries including Brazil are caused by small pressure changes in the Pacific Ocean.

### La Niña

- El Niño and La Niña are both names referring to the wind and temperature in the Pacific Ocean.
- Air in the deep ocean is found in three different states.
- The first stage is the normal east-west wind.
- Often this is the usual wind direction.
- An El Nino is a condition that occurs when the wind speed decreases or there is no wind at all.
- La Nina is a condition that occurs when the winds start to blow strongly and change from east-west direction.
- One third of the Earth's surface is the Pacific Ocean.
- Ocean water is warmed when warm air blows quickly from one part of the Pacific Ocean to another for a few seconds.
- Wind and steam are pushed from one place to another.
- Normally, heat spreads from South America to Asia through this air.

### El Nino

- When El Niño occurs, the sea breeze stops moving completely.

- When there is no wind, the heat is not pushed away from the Pacific Ocean and stays there.
- Warmth lingering in the Pacific Ocean and near South America can cause sea water to evaporate and cause rain in unexpected and unwanted places.
- Sometimes the glow of the clouds formed to reduce the heat of the sea falls on the sea itself and tries to reduce the heat.
- One of the effects of El Nino is the heavy rainfall in the coastal regions of South America
- An El Nino usually brings undesired rainfall, not only in the Pacific Ocean, but also to droughts in areas that normally receive monsoon rains.
- So hearing the name El Niño creates fear.
- El Niño and La Niña are natural phenomena.
- The reason why they form has not been discovered.
- Severe El Niño impacts have only been reported for the past half century.
- They say that both El Nino and La Nina will increase in the future and that is due to global warming.

## The scorching sun

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- A burst of charged systems called the solar wind occurs every second from the Sun's outermost region, the corona
- This wind of electrons flew through interplanetary space at speeds of about 200 to 400 kilometers per second.
- When the wind blows, the smoke coming out of the chimney rises like a tail, doesn't it? Similarly, the tails of comets are formed by the blowing solar wind.
- While the sun's equator rotates once in 25 days, its pole takes 35 days to rotate
- As the sun revolves around itself, the invisible magnetic field lines twist and curve from the north pole to the south pole.
- Fury occurs in the Sun when the massive magnetic field lines that bend, twist, and twist break apart.

### Solar storm

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- Twisted magnetic field lines can sometimes cut through it and travel in straight lines from the Sun into space
- This is called a solar magnetic field hole
- Through this field, more intense, 800 km/s ions flow in that direction., which is called as solar storm
- Sometimes the winding magnetic field can suddenly break out and get a new connection
- Then the energy of the decaying magnetic field creates electromagnetic waves such as X-rays and gamma rays and emerges as light storms. There will be a sudden increase in brightness in that area like a lightning strike.

- Most of the magnetic field lines intersect and cancel each other
- Fractured magnetic field lines are separated from the Sun and spread into space like volcanic magma
- As the cloud rises, the magnetic field lines from the Sun carry the ionized material with them
- This is called a solar volcanic eruption or solar mass ejection explosion.

### Protective shields

- First - Earth's magnetic field lines deflect ion particles streaming from the solar wind, like a ball bouncing off a cricket bat.
- Second – ionized atmosphere which extends from 60 km to 1000 km above the earth. It absorbs and blocks ionized particles like a bullet proof shield
- There is a hole through the magnetic field lines at the north and south poles of the earth
- Ion particles carried by the solar wind enter Earth's north-south poles through this hole every second.
- Multicolored light is produced when electrons from the solar wind collide with ionic oxygen and ionic nitrogen atoms in the ionized atmosphere at the north-south polar regions.
- This is what we call polar light.

### Effects

- A magnetic storm occurs on the Earth when a large perturbation on the surface of the Sun is directed towards the Earth
- Although there is no danger to humans and animals, industrial technologies such as satellites, electronic equipment, power distribution etc. will be affected.
- In the event of an intense photostorm, these high-energy electromagnetic waves traveling through space can shake up the ionosphere at Earth's surface.
- And the ultraviolet radiation that spreads with it warms the Earth's surface atmosphere and expands it
- The expanding atmosphere exerts a frictional force on satellites in low-space, causing subtle changes in their orbits.
- An electron beam on a satellite in space creates a static current that affects electronic equipment.

### Space weather

- Today there are about 8000 satellites orbiting the Earth
- Everything from telecommunications to hospital emergency department equipment relies on uninterrupted power supply
- After three to four days, the effect of solar cyclone and solar volcano will start to be felt on earth
- Therefore, many space observatories detect solar flares immediately and take precautionary measures
- A light storm traveling at the speed of light reaches the earth in 8 minutes. So even if the space telescope predicts, it is of no use.

## El Nino

- Due to the high probability of El Nino formation, monsoon rains in India are likely to fail
- From July to September, i.e., its impact will be greater to the extent that it affects the south-west monsoon
- El Niño means that the Pacific sea level west of South America is usually between 60 and 70 degrees Fahrenheit.
- When it gets to 80 degrees or higher, it causes severe weather changes in the area
- This change is called El Nino
- Due to this, the western part of the US will receive thunderstorms, while monsoon rains in India and Australia will fail & cause severe drought.
- In case of El Nino, crop production will be affected and consequently inflation i.e. price will rise

## GI Tag

- Thorny native breed of brinjal in Vellore district & Ramanathapuram mundu chilli to be conferred GI tag.

### Authorization for 420 items

- To protect geographical indications in India, the Geographical Indications and Protection Act, 1999 was enacted in September 2003 and came into force.
- This can prevent the production and marketing of the product having the geographical code in places other than the concerned town
- Madurai jasmine, Madurai Sungudi Saree, Karaikudi Kandangi Saree, Kancheepuram Pattu, Salem Mango, Thanjavur Doll, Mamallapuram Sculptures, Thanjavur Style Paintings, Palani Panchamirtham, Kovilpatti Kudalaimatai etc.

## Lithium in Jammu & Kashmir

### 30 by 30

- Lithium is a key component in rechargeable batteries
- It is the powerhouse for smartphones, laptops, electric vehicles and more.
- The number of electric cars is to increase by 30 percent by 2030 as part of efforts to reduce carbon emissions to combat global warming.

### Lithium in Jammu & Kashmir

- Geological Survey of India has discovered lithium deposits in Salal Haimana, located in Reasi district of Jammu and Kashmir.

- The Department of Mines has reported that there are 59 lakh tonnes of lithium deposits here
- While India has been dependent on China, Indonesia, Vietnam, Australia, Argentina for its lithium consumption, this discovery is good news for various sectors and will give impetus to the country's economic growth.
- Rare earth metals such as lithium are fundamental to the development of new technologies.

### From battery to medicine

- Demand for electric vehicles is currently increasing due to climate change and environmental protection
- Hence the demand for lithium ion batteries will also increase significantly in the coming years
- Lithium plays an essential role in pharmaceuticals, mood therapy, aerospace defense, glassware production, lubricant oil production, aluminum production, and fertilizer production to improve crop yields.
- As climate change mitigation measures, electric vehicles, and the transition to renewable energy sources, lithium has become increasingly valuable globally.
- Bolivia, Argentina, and Chile, which currently have the most lithium reserves, are experiencing political instability
- So developing mining projects and exporting lithium to those countries is a challenging task
- Bolivia is believed to have the world's largest lithium reserves of 2.1 billion tons
- China accounts for 75% of the world's refining capacity, despite having smaller lithium reserves than Bolivia and Argentina.
- This makes China the dominant country in the lithium market.

### Environmental damage

- A major drawback is that the mining processes for lithium production are not environmentally friendly
- Lithium is extracted from hard rock, underground brine reservoirs
- After that, the lithium production process is carried out using fossil fuels
- As this process requires more water and more organic gases are added to the atmosphere, the environmental problem has become acute there

## **Char Dham**

- Char Dham is a major pilgrimage in Uttarakhand
- It has 4 Siva sthalams namely Badrinath, Kedarnath, Gangotri & Yamunotri
- As these are located in the Himalayas, Uttarakhand is also called Devabhoomi.

**07**

# Environment, Biodiversity and disaster Mangement

## Electric aircraft

- This aircraft is a modification of Italy's Tecnam P2006T aircraft and is an experimental aircraft that can run on lithium batteries.
- This aircraft is named as X-57.
- Its wing has 14 propellers.
- The X-57 is designed as a small 4-seater aircraft.
- The wings of this plane are very long.
- These can be folded when needed.
- When using conventional petroleum fuel, the aircraft will lose weight as it runs out of fuel
- The power available from the battery is proportional to weight and size.
- The power available from it is 50 times less than the power available from conventional jet fuel.
- Batteries are now being developed using quantum technology.
- These can be charged quickly.
- The lithium battery is one of the best batteries ever invented.

### Can fly upto 160 km

- The X-57 electric plane developed by NASA can fly up to 160 km.
- It will take one hour.
- This electric aircraft, which has been made as an experimental effort, will be flown this year.

## Petrol with 20% Ethanol

- The sale of petrol with 1.4% ethanol started in 2014
- After that, the target was set to introduce 10 percent ethanol blended petrol by 2022
- Before that, 10% ethanol blended petrol was introduced
- The target was to introduce 20 percent ethanol blended petrol by 2030.
- Later it was planned to be introduced in 2025.
- Currently it is introduced 2 years before the target period.

## 12 more moons of Jupiter

- 12 new moons of Jupiter have been recently discovered by American astronomers
- Jupiter occupies the first place in the solar system with maximum 92 moons
- Saturn, which was at the top with 83 moons, was relegated to the 2nd position
- The new moons were discovered in 2021 and 2022 with telescopes located in Hawaii and Chile.
- All moons are small in size ranging from 1 km to 3 km
- Small moons orbiting Saturn and Jupiter may collide with each other or collide with asteroids to form new moons.

## NISAR Satellite

- The ISRO-NASA joint Nisar earth observation satellite is slated to be launched in India later this month to enable detailed monitoring of the Earth's land and snow-covered regions.
- The Indian Space Research Organization (ISRO) and the US Space Agency (NASA) have jointly developed the NASA-ISRO Synthetic Aperture Radar satellite to predict natural disasters and climate change.
- The 2800 kg satellite was manufactured at NASA's Jet Propulsion Laboratory in Washington, D.C. under a 2014 contract.

### Features

- The Nisar satellite will track inch by inch changes in the Earth's land and ice cover
- The satellite will help researchers detect subtle variations in the landscape ahead of earthquake landslides and volcanic eruptions
- Thus early warning of natural calamities like the landslide in Joshimath city in Uttarakhand can be done.
- By providing measurements of ice sheet melting and ice sheet breakup, it will improve understanding of the pace and impacts of climate change, including sea level rise.
- For 3 years this satellite will monitor the entire Earth in all weather conditions every 12 days and transmit information.

## SSLV-D2 Rocket

- Indian Space Research Organization's PSLV rocket can launch satellites of 1750 kg and GSLV rocket of 4000 kg.
- The demand for launching small satellites has increased in the international space market
- Keeping this in mind, ISRO is newly designing small SSLV rockets to carry light weight satellites into low Earth orbit.
- Its weight is 120 tons and the cost of this will be within Rs 30 crore.

## COP-15

- More than 190 countries are participating in the 15th UN Biodiversity Conference in Canada
- In this, it has been decided to raise USD 20,000 crore by 2030 to raise the target for biodiversity conservation from the existing 27% to 30%
- At the same time, the resolution did not include concrete promises regarding the intensification of biodiversity protection measures
- The Athikadavu Avinasi Linkage Scheme, first mooted in the Legislative Assembly in 1957, was accepted only in 2016.
- Although the project was announced to be completed in 34 months, the project is now at the stage of completion after the last 7 years with administrative clearance in 2018 and environmental clearance in 2019.
- Thamirabarani-Karumeni River Linking Project was brought up in 2009
- But only after 15 years, the works are nearing completion
- The century-long Cauvery Kundaru Linkage Project was launched only in 2021
- The project will be implemented for a distance of 262 km and will cost around 14 thousand crores

## Kuno National Park

- Prime Minister Narendra Modi on his 72<sup>nd</sup> birthday on September 17, released the first group of Cheetahs from Namibia at the Kuno National Park.
- Among them are five female Cheetahs and three male Cheetahs
- The last Cheetah in India was died in 1947 in Koriya district of present day Chhattisgarh state.
- It was announced in 1952 that there are no Cheetahs in India
- An agreement was signed between India and South Africa
- Accordingly, in the first phase, 12 Cheetahs will be brought to India from South Africa.

## Ethanol gasoline

### E20

- The central government has set a target to increase the share of ethanol in petrol to 20 per cent by 2025
- At present, it is reported that this ethanol petrol is available at selected petrol stations in 11 states and union territories.

### Benefits

- Ethanol gasoline can reduce environmental impact.



- Emissions are reduced by up to 50% in two-wheelers and up to 30% in four-wheelers
- There are about 22 crore vehicles in our country.
- Therefore, the amount of pollution reduced by ethanol gasoline is enormous.
- The cost on crude oil will also decrease.
- We import about 85% of our fuel requirements.
- In this context, 10% ethanol petrol saved us Rs 58,394 crore last year alone.

### Economic importance

- 28% of the growing world demand comes from us.
- In the financial year 2021-22, we imported crude oil to the tune of \$120 billion.
- The proposed 20 percent ethanol gasoline is of great economic importance.
- Apart from this, employment will be created.

### Bioenergy

- Bioenergy is produced from compostable agricultural wastes from forests and agricultural lands, sugarcane bagasse, vegetable oil, and shrubs growing in barren areas.

## 12 Cheetahs

- Cheetahs have not been seen anywhere in Indian forests for the past 70 years
- This species was considered extinct.
- Last year, 5 female and 3 male Cheetahs were brought to India from Namibia, Africa.
- Released in Kuno National Park, Madhya Pradesh.
- In the second phase, 7 male and 5 female Cheetahs arrived at the air force base in Gwalior, Madhya Pradesh yesterday in a cargo plane owned by the Indian Air Force.
- From there, Cheetahs were taken to Kuno National Park.
- The number of Cheetahs in Kuno Park has increased to 20.

## Eco Park in Mundanthurai, Kalakadu

- Kalakadu Mundanthurai Tiger Reserve was the first tiger reserve established in 1976
- Following this four tiger reserves were announced later namely Anaimalai Tiger Reserve, Mudumalai Tiger Reserve, Sathyamangalam Tiger Reserve and Meghamalai Tiger Reserve.
- Kalakadu Mundanthurai Tiger Reserve is home to more than 2,000 species of plants, including 150 endemic species.
- This tiger reserve is also known as the river sanctuary as 14 rivers originate from this land area.

- Also, Agasthiyamalai has been declared an Elephant Sanctuary with the aim of protecting the vital habitats and corridors of the Asian elephants in the South West Highlands region and maintaining the elephant population.
- The conservation center is a landmark in the government's efforts to protect the Agasthiyamalai Elephant Sanctuary, Kalakkadu-Mundathurai Tiger Reserve.

## 9 Indian States on Climate Change Vulnerable List

- States and Provinces Surveyed Internationally - 2639
- Climate change continues to pose a threat due to increasing urbanization, vehicular traffic, and industrial expansion
- From agriculture to people's health facilities, various impacts are likely to occur due to climate change.

### Status of Indian States

22	Bihar	86	Andhra Pradesh
25	Uttar Pradesh	104	Jammu & Kashmir
28	Assam	126	Telangana
32	Rajasthan	155	Himachal Pradesh
36	Tamil Nadu	169	Odissa
38	Maharashtra	192	Chhattisgarh
44	Gujarat	213	Delhi
48	Punjab	257	Uttarkhand
50	Kerala	408	Jharkhand
52	Madhya Pradesh	475	Manipur
60	West Bengal	669	Nagaland
62	Haryana	695	Tripura
65	Karnataka	714	Goa

### Indian states at increased vulnerability risk list between 1990 and 2050

1	Lakshadweep	225	Manipur
22	Assam	323	Bihar
27	Jammu & Kashmir	538	Mizoram
30	Nagaland	619	Kerala
41	Sikkim	856	Chhattisgarh
72	Arunachal Pradesh	869	Uttar Pradesh
113	Meghalaya	983	Tripura

## Biodiversity Centre

- Biodiversity museum and conservation Centre with Eco Park at Kaakaachi situated deep Inside Kalakkadu-Mundanthurai Tiger Reserve has shocked wildlife enthusiasts and conservationists
- Cost of Rs 7 crore near Manimuthar Dam
- The KMTR, Tamil Nadu's first Tiger reserve spreads over 895 square kilometre and forms part of the Agasthyamalai Biosphere Reserve and 14 rivers originate from it
- The proposed site is located above Manjolai, where the forests are dense
- It records over 4,000 mm rainfall annually. It rains for more than 200 days in a year
- Lion-tailed Macaque, Nilgiri Langur, Brown Palm Civet, Flying Squirrel, etc., are found here
- Kaakaachi forest connects Kalakkad and Mndanthurai regions and is a major corridor for wild life.

## Environmental protection : Everyone's shared responsibility

### Green energy

- India has abundant sources of renewable energy like solar, wind, biogas
- These are equivalent to a gold mine
- India has achieved 10 percent ethanol blending target 5 months ahead of schedule
- The target is to produce 5 million tonnes of green hydrogen per year
- Battery storage capacity should be increased to 125 gigawatt hours
- India has set an ambitious target of 500 GW of renewable energy by 2030.

### Forests in India

- The total area of India is 32,87,263 square kilometers
- In 1952, a new forest conservation policy was formulated in our country
- Accordingly, one third of the total area of the country i.e. 33.33 percent should be covered by forests and trees
- Forests cover 24.62% of India's total land area
- Madhya Pradesh ranks first among the states with the highest forest cover
- It is followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maratha states.
- In terms of percentage, the northeastern state of Mizoram is at the top. 84.53% of the total area of the state is covered by forests
- The area of Tamil Nadu is 1,29,966 square kilometers. 17.59% of it is forest. i.e., 22,877 sq km
- Reserve forests - 19,388 sq km

- Protected forests - 2,183 sq km
- Unclassified forests - 1,386 sq km

## World's lungs is in danger

### Amazon forest

- The Amazon rainforest is known as the lungs of the world
- It is a no ordinary forest. 70 lakh square kilometers area
- More than twice the total area of India. Out of this maximum 55 lakh square kilometers are full of rainforests
- It is spread across nine countries: Brazil, Peru, Bolivia, Colombia, Venezuela, Guyana, Suriname, French Guiana
- Most of these forests cover the country of Brazil.

### Amazon Forests

- **59.1% of the total forests are here**
- A type of fish called eel found in the rivers here is capable of killing humans by discharging electricity from its body
- One-fifth of the world's birds live here
- Anaconda snakes are here
- Located in the equatorial region, the Amazon rainforest receives rainfall throughout the year.
- Due to the thick trees throughout the forest, most of the ground has never seen sunlight
- Cold winds blowing from the Sahara desert in the northern part of the African continent towards the Atlantic Ocean in the west carry 18.2 million tons of phosphorus annually.
- It is very helpful for plants to grow there

### Oxygen

- Air i.e. oxygen in the air is essential for human survival
- Plants take in carbon dioxide and release oxygen
- In that sense, trees are man's best friend
- The Amazon forests provide 20% i.e., 1/5th of the world's oxygen
- This is why the Amazon forest is called the lungs of the world.

### Hazard

- An estimated 4,000 billion tons of greenhouse gases and carbon-dioxide are emitted annually by volcanoes worldwide.
- Of this, 5 percent i.e. 200 million tons is absorbed by the Amazon forests
- This earth is not only for humans. Belongs to all beings. But only humans have a monopoly

- No living being is damaging or destroying the nature except human being
- It is humans who destroy forests, build settlements and factories and pollute water

### Amazon

- The Amazon River originates at the 21,768-foot Yerupaja peak in the Andes mountain range on the northwestern side of the South American continent along the Pacific Ocean.
- Originating in Peru, the river flows through Ecuador, Colombia, Venezuela, Bolivia, Suriname, Guyana, French Guiana, and flows 6,400 kilometers into the Atlantic Ocean in Brazil.
- The Amazon is the second largest river in the world after the Nile in Africa.
- The watershed area of the Amazon is 70,50,000 square kilometers
- This is the largest river basin in the world
- A type of giant fish called piranha that lives here swarms and drags cattle that wander in the shallows and eats their flesh.
- There are no bridges across the Amazon River
- A Spanish soldier named Francisco de Orellana gave the name Amazon.

## **Electric vehicles will come down in price**

### Imports

- More than 80 percent of our crude oil requirements are imported
- As a result, a large part of the country's foreign exchange is spent on buying crude oil
- The main reason for the current account deficit is the import of crude oil
- Goods and service tax is less charged on electric vehicles

### Incentives

- Electric vehicle policy in 2019
- M. K. Stalin unveiled the Electric Vehicle Policy 2023 and announced several incentives
- An electric vehicle park will be set up in Krishnagiri district for the production of electric vehicles.

### Lithium

- A large part of the cost of electric vehicles goes to the cost of the lithium battery
- Electric vehicles can only be powered by lithium batteries
- In a major breakthrough, the Geological Survey of India has announced the discovery of 59 lakh tonnes of lithium in the Reasi region of Jammu and Kashmir.
- Lithium, known as white gold, is essential not only for electric vehicles but also for all other devices.
- Cell phones, laptops, and digital cameras all have rechargeable batteries requires lithium.
- Soon, not only the price of electric vehicles, but also the price of electronic gadgets will come down as they have been imported abroad for so long which are no longer necessary.

**08**

# Indian Economy

## Self-reliant India is our goal

- President Draupadi Murmu said that the country should become a self-reliant power in the next 25 years as it celebrates its centenary of Independence.
- On the first day, President Drabupati Murmu addressed a joint meeting of both houses.
- The central government is working for the welfare of the country.
- The central government has been acting steadily and fearlessly on the basis of decisive goals.
- From surprise attacks to countering terrorism, from Pakistan border to China border to tackle security threats, from revoking special status of Jammu and Kashmir to ban on Mutlaq, the central government has taken decisive decisions.

### On a Fast pace...

- India is currently being praised for its rapid growth and visionary projects
- Due to that, India, which was at the 10th position among the world's largest economies, has now moved up to the 5th position

## Economic report 2022-23

### Key features

- The Indian economy is expected to grow by 6.5% in the upcoming financial year 2023-24
- GDP will be 7% in the current financial year
- A pick-up in private consumption, higher capital expenditure, strengthening of corporate financial position, increase in lending to small businesses and return of workforce to work environment will be the key factors driving growth.
- The Indian economy ranks 3<sup>rd</sup> in terms of purchasing power parity and 5<sup>th</sup> in terms of exchange rate.
- The RBI has estimated inflation to be above target at 6.8 per cent in the current financial year
- Due to the increase in international commodity prices, the current account deficit is likely to widen
- PM-kisan, garib kalyan yojana schemes play an important role in poverty alleviation
- The central and state government expenditure on social welfare schemes has increased from Rs 9.1 lakh crore in 2015-16 to Rs 21.3 lakh crore in the current financial year.
- Transactions through UPI increased by 121% in terms of value and 115% in terms of number. (During the period 2019-22)

- The expenditure of central and state governments on health sector has touched 2.1% of GDP
- More than 220 crore Karuna vaccines have been administered
- A target has been set to reduce emissions of environmental pollutants to zero by 2070
- An investment of Rs 47,500 crore has been made in the last financial year 2021-22 under the Production Linked Incentive Scheme.
- This is 106% of the set target for this year.
- According to the Multidimensional Poverty Index, between 2005-06 and 2019-20, 41.5 crore people have been lifted out of poverty in India.
- India's e-commerce market is estimated to sustain an annual growth of 18% till 2025
- Private investment in agriculture sector increased by 9.3% in FY 2020-21.

### Decrease in unemployment

- While unemployment stood at 5.8% in FY 2018-19, it has come down to 4.2% in FY 2020-21.
- Women's participation in rural employment increased from 19.7% in 2018-19 to 27.7% in 2020-21.

### Inflation came under control

- Inflation peaked at 7.8 percent in April due to the Russia-Ukraine war
- The Reserve Bank had set a target of controlling inflation to 6 percent
- The RBI has projected inflation to be 6.8 per cent in FY 2022-23, according to the Economic Survey.

### Industry affected by supply chain crisis

- Industrial growth in the current financial year is 4.1 percent
- In FY 2021-22 it was 10.3 percent
- A crisis in the supply chain has led to shortages of key raw materials due to China's lockdown
- Due to this, industrial activities were affected globally
- It was also reflected in the Indian industrial sector

### Food grain production: 31.57 crore ton

- India's foodgrain production to touch 31.57 crore tonnes in FY 2021-22 despite climate change challenges

### Service sector in lead

- In the financial year 2021-22, the services sector has grown by 8.4 percent
- The services sector is expected to grow by 9.1 percent in the current financial year

### Exports faced crisis

- India's exports have come under pressure in the current financial year due to the Russia-Ukraine war and global economic uncertainty.

## Central budget

### An Introduction

#### Income-expenditure budget

- A central financial statement is a classified list of budgets for the next financial year
- Financial reporting enables ministers and departments to plan how to spend money for the benefit of the people
- Importantly, it tracks real spending, growth, and economic indicators
- The central government's primary source of revenue is income from income tax, GST, customs duty, and goods tax
- The main expenditure of the government is education, health, welfare schemes, infrastructure projects, purchase of arms for the defense of the country, wages and pensions of government employees.

#### Financial reporting and governance

- Article 112 of the Constitution of India refers to the Central Financial Statement of India as the Annual Financial Statement of the Republic of India
- According to this statement, the central government must submit a financial statement to Parliament before the beginning of the financial year, which includes the revenue and expenditure projections of the government for each financial year.

#### Financial year

- Prior to 1867, the Indian fiscal year began on 1<sup>st</sup> May and ended on 30<sup>th</sup> April.
- The financial year of India starts on 1st April and ends on 31st March every year.

#### Role of the President

- The President has the power to decide the date for filing the financial statements.
- It is customary for the Finance Minister to meet the President before presenting the Union Budget on that day.

#### Budget speech

- The finance minister delivers the budget speech in two parts.
- The first part will contain the economic thesis.
- The second part will include the introduction of new tax schemes and announcements on new schemes.

#### Economic Thesis

- The economic thesis system was introduced from the year 1951.
- The report contains guidelines for the central budget.
- The Department of Economic Affairs of the Ministry of Finance is responsible for carrying out the economic analysis and publishing the report.
- The Chief Economic Adviser and the Finance Minister will approve this economic report.



- This economic report serves as an evaluation report that measures the economic performance of the government in the last year
- Its comprehensive statistical data outlines economic indicators and social indicators.

### Interim financial statement

- An interim financial statement is one that is presented in lieu of a full budget in a parliamentary election year.
- A change in tax rates is allowed in the interim financial statement.
- There will not be any major changes in this as the elections will be held in a few months.
- Mainly new schemes cannot be introduced.

### Vote on Account

- A complete financial statement tabled in Parliament takes a long time to be passed by Parliament and then to be approved by the President.
- The provisions in the financial statement become a financial order only after the assent of the President.
- Until then, the Vote on Account is a mechanism to allow the government to take the money it needs from the government exchequer.
- With this, the government can take the necessary money for the next 2 months with the approval of the parliament.
- At the time of election, the permit will be given for 4 months only.

## **Finance Minister Nirmala Sitharaman presented the Union Budget in the Lok Sabha**

- Under the new tax regime, there is no income tax on an individual's annual income up to Rs 7 lakh
- The income tax exemption ceiling is raised to Rs 3 lakh
- This budget has been prepared on the basis of seven key aspects which are
- Inclusive growth
- Reach of government schemes to the masses,
- Infrastructure-increasing investment,
- Full utilization of resource opportunities,
- Green growth,
- Youth power and
- financial services.

### Five key announcements

#### First:

- There are two modes of taxation of personal income, old system and new system

- There is no income tax up to Rs 5 lakh in both the procedures
- In this budget, the income tax exemption limit is raised to Rs 7 lakh under the new taxation system

### Second:

- There are six different tax rates under the new taxation system
- Now it is reduced to 5
- Also, the new tax regime raises the personal income tax exemption ceiling from Rs 2.5 lakh to Rs 3 lakh.
  - Rs. 3 L to Rs. 6 L - 5%
  - Rs. 6 L to Rs. 9 L - 10%
  - Rs. 9 L to Rs. 12 L - 15%
  - Rs. 12 L to Rs. 15 L - 20%
  - Rs. 15 L to Rs. 30 L - 30%
- According to this, if a person earns Rs 9 lakh per year, he will have to pay Rs 45,000 in tax

### Third:

- Salaries, pensioners, family pensioners will be given basic exemption under the new tax regime
- According to this, salaried employees earning an annual income of Rs 15.5 lakh and above can avail a concession of up to Rs 52,000.

### Fourth:

- The surcharge rate for high earners is reduced from 37 percent to 25 percent
- This reduces the maximum tax rate from 42.74 percent to 39 percent.

### Fifth:

- Earned leave for retirement of non-government employees was fixed at Rs three lakhs in 2002.
- This limit is now raised to Rs 25 lakh.

### Major projects, financial allocations

- Allocation of Rs 5.94 lakh crore for the military department
- 2.7 Lakh Crore for Transport and Highways Department
- 2.41 lakh crores for the railway sector
- For the welfare of farmers, Rs 1.25 lakh crores
- 1.23 lakh crore for IT sector
- Target to disburse Rs 20 lakh crore agricultural credit
- India will emerge as a small grain production hub
- 157 Nursing Colleges near 157 Medical Colleges
- 10 lakh crore for capital expenditure to increase employment
- 50 new airports and helipads

- Free food grains in ration to 80 crore families
- A National Digital Library will be set up
- E-Courts project at a cost of 7000 crores
- A hundred labs will be set up for testing 5G services
- National Hydrogen Project at Rs 19,700 crore
- Ten thousand laboratories to promote organic farming
- 50 years interest free loan to state governments

## New announcements in the budget

- Presenting the Union Budget, Finance Minister Nirmala Sitharaman said that the budget will include the development of women, youth, farmers and tribals.

### Key features announced:

- Funding will be created to scale up agricultural startups in rural areas
- The central government will also support a Hyderabad-based company to promote small grains
- A National Library will be set up to encourage the habit of reading. It will feature international books for children and adults to read. For this, the National Book Trust and Children's Book Trust will be encouraged. The scheme will be implemented with the participation of NGOs
- 3 centers will be set up to explore artificial intelligence in reputed educational institutes
- A new program of research and development in the field of medicine will be introduced
- 38,800 teachers and non-teachers will be appointed in the next 3 years in 740 Ekalaiva Model Boarding Schools where tribal students study.
- A development drive will be implemented to raise the socio-economic status of certain tribal people. 15,000 crores will be allocated for the implementation of this scheme in the next 3 years
- A sub-scheme will be implemented under pm matsya sampada yojana for those engaged in fisheries sector. Rs 6,000 crore will be allocated for it
- 157 new nursing colleges will be started across the country.
- PAN will be mandatory for all digital operations
- 100 labs will be set up in engineering institutes to develop applications in 5G technology.
- 35 thousand crores will be allocated for green energy development projects
- Additional 50 airstrips, heliports, water landing pads, advanced aircraft landing areas will be established. 100 structures for transportation of fertiliser, steel, coal, food grains, for which Rs. 75 thousand crore will be allocated
- The focus will be on skill development including coding, AI, robotics, 3D printing. Integrated Skills India Program will be launched. Out of which 47 lakh youth will be given assistance
- Introducing a new app to promote tourism. Integrated tourism program in 50 areas

- A Central Action Center will be set up to take immediate decision on the demands in the companies
- Introduction of integrated IT website to facilitate withdrawal of unclaimed shares by investors
- The savings ceiling for senior citizens will be raised to Rs 30 lakh
- New savings scheme for women : 7.5% interest on savings for 2 years.

## Budget estimates 2023-24

### Key features

- The country's economy has grown in the last 9 years
- India, which was the 10th largest economy in the world, is now the fifth largest
- In the last nine years, the per capita income has more than doubled to Rs 1.97 lakh
- The number of members in the provident fund system has more than doubled to 27 crore
- By 2022, 7,400 lines of digital payments through UPI will be worth Rs 26 lakh crore.
- 11.7 crore households have been provided with toilets under the Swachh India programme
- 9.6 crore cooking gas cylinder connections have been provided under the Ujjwala scheme
- 220 crore corona vaccines have been administered to 102 crore people
- Prime Minister's Jan Dhan Bank accounts have been established for 47.8 crore people
- 44.6 crore people are covered under PM's Suraksha Bhima and PM's Jeevan Jyoti scheme.
- Over Rs 2.2 lakh crore has been disbursed into the bank accounts of over 11.4 crore farmers under the Prime Minister's Kisan Samman Nidhi scheme.
- Rs 2200 crore self-sustainable clean plant program to promote availability of disease-free, quality horticultural crops
- 157 new nursing colleges will be established in addition to the 157 medical colleges established since 2014.
- The central government will select 38,800 teachers and other staff for 740 Ekalaiva model boarding schools to benefit 3.5 lakh tribal students.
- Funding for the Prime Minister's Housing Scheme has been increased by 66% to Rs 79,000 crore
- Rs 2.4 lakh crore has been earmarked for investment in the railway sector. This is 9 times more than the funds allocated in 2013-14
- 100 labs will be created for 5G service based facilities for new job opportunities and business opportunities.
- An Urban Infrastructure Development Fund will be established to establish urban infrastructure in secondary and tertiary cities. It will be administered by the National Housing Bank
- Enterprise DigiLocker is set up for small, medium and large enterprises and trusts to securely share documents online

- 500 new waste-to-cash plants to be set up under Rs 10,000-crore Gobardhan project to promote circular economy
- Central government is going to help one crore farmers to adopt organic farming methods in the next 3 years. For this, ten thousand bio resource centers will be established and micro fertilizers and pesticides will be distributed.
- Prime Minister's Kaushal Vikas Scheme 4.0 will be launched for skill development training of youth. Through this, over the next 3 years, lakhs of youth will be trained in artificial intelligence, robotics, mechatronics, 3D printing, etc.
- 30 Skill India International Centers will be set up in various states to develop the skills of youth for international opportunities
- Rs 9,000 crore has been earmarked for a modified loan guarantee scheme for micro, small and medium enterprises. It will come into effect from April 1 this year. The scheme will lead to an additional Rs 2 lakh crore of collateral-free borrowing and will also reduce the cost of borrowing by around one per cent.
- The maximum deposit limit for the Senior Citizen Savings Scheme is increased from Rs 15 lakh to Rs 30 lakh
- Agricultural Incentive Fund will be established to promote agricultural business by land entrepreneurs in rural areas
- The Indian Small Grains Research Center at Hyderabad will be converted into a seed hub to make India a global hub in the name of 'Sri Anna'. Through this, best practices, researches and technologies will be shared internationally
- A loan of Rs 20 lakh crore will be provided to promote agriculture, animal husbandry, dairy and fish farming
- A new scheme will be launched under the PM Matsya Sampada yojana Scheme worth Rs 6,000 crore to promote the fishermen industry.
- 63,000 Primary Agricultural Credit Societies will be computerized with an investment of Rs 2,516 crore.
- 10 lakh crore will be earmarked for capital expenditure to boost growth and employment. This is the third consecutive year of increase of 33 percent.
- 15,000 crores for Tribal Development Scheme
- 75,000 crore will be invested, including Rs 15,000 crore in private companies to build transport infrastructure in ports, coal, steel, fertilizer and food grains sectors.
- Teacher Training Centers at the district level will be upgraded into formal Teacher Training Centres
- A national digital library will be established with access to quality books for children and youth
- Central Government will provide Rs 5,300 crore financial assistance to the Upper Bhadra Project for Micro Irrigation Project, to establish drinking water facilities.
- The 50-year interest-free loan to state governments to encourage investment in builders will continue for another year

- Waste disposal in septic tanks will be 100% mechanized.
- 3 Artificial Intelligence Centers will be set up to bring together leading academic institutions to develop AI in India and AI for India
- The PAN card will be used as a public identification to facilitate the procedures for doing business
- The third phase of the e-Courts project will be launched at an estimated cost of Rs 7000 crore for better administration of the judiciary
- A new small savings scheme in the name of women named 'Mahila Samman Savings Certificate' is being launched to commemorate the Amrit Mahastavam of Liberation. Of this, up to two lakhs can be deposited for a period of two years. 7.5% interest will be paid on this. It also has the facility to take part cash.

## Budget in Rs 1

### Commodities with increased price

Imported cars and electric vehicles  
Cars assembled in India with imported spare parts  
Cigaretteq  
Kitchen chimney  
Imported bicycles and toys  
Convering jewelry  
Compound rubber  
Gold Platinum Silver Jewelry and Accessories

### Commodities with decreased price

Locally manufactured television sets, mobile phones  
Shrimp Feeds  
Fish fat oil used in the manufacture of animal feed  
The raw material for lab-created diamonds  
Machines are raw mateials for the productionof lithium - ion batteries uded inelectric vehicles

## Waste disposal machines

- Union Finance Minister Nirmala Sitharaman has announced a plan to end the scourge of underground sewers in India and human waste cleaning by humans in the 2023-24 budget.
- She informed that henceforth a structure will be created where these works can be carried out completely by machines
- In all cities and towns of the country only machines should be used for cleaning underground sewerage tanks.
- She has declared that humans should not be used for these tasks. She mentioned that action will be taken against the concerned officials if humans are involved in these tasks
- Municipal administrations should initiate the process of procuring these machines
- It is noteworthy that the central government had said that 400 people have died while working in underground sewerage tanks in the last five years.

## Carbon free India by 2070

- The Paris Agreement on Climate Change has set a target of 100% reduction in carbon dioxide emissions by 2070.
- A shift from fossil fuels to renewable fuels is planned
- For this, a new section titled Green Growth has been included in the budget
- Rs 35,000 crore has been earmarked as priority capital to achieve this target
- The Central Government approved the National Green Hydrogen Project on 4th of this month
- The target has been set to produce 5 mmt by 2030
- This will significantly reduce fossil fuel imports.

## MSME

### Micro Small Medium Enterprise

- Micro enterprise, if the investment is less than Rs 1 crore or the annual turnover is less than Rs 5 crore
- Small company, if the investment is less than Rs.10 crore or the annual revenue is less than Rs.50 crore
- Medium company, if investment is less than Rs.50 crore or annual revenue is less than Rs.250 crore
- Large companies are defined as companies with an annual turnover of more than Rs 250 crore
- There are 9 crore MSMEs across the country
- They play a very important role in the economic development of India
- The contribution of MSME sector to the country's GDP is 30%

### Change

- Companies that have procured goods from MSME companies irrespective of whether they are large or small companies should pay the amount within a maximum of 45 days.
- If not, the company cannot show the amount as an expense and claim tax deduction
- This Act will come into effect on April 1

## RBI

- The Reserve Bank of India hiked the interest rate on short-term loans to banks by 0.25% to 6.50%.
- This will increase interest on home loans etc.
- At the same time, the interest paid on fixed deposits in banks is also likely to rise.
- This will benefit senior citizens who depend on interest income.

### Fiscal Policy Committee

- RBI's 6-member Monetary Policy Committee meeting approved the decision to hike interest rates by a margin of 4-2.

## Inflation

- RBI Governor Shaktikanta Das: Continued inflation is a matter of concern.
- Mainly consumer price index based inflation should be brought down.
- The interest rate for this is raised little by little.
- The amount of money in circulation in the country continues to be abundant.
- He said food inflation will come down as there will be more arrival of wheat and oilseeds in the market after rabi season harvest.

## Economic development

- RBI had earlier projected it to be 7% in the current fiscal.

## Value of Rs

- The Indian rupee is one of the least volatile currencies against the US dollar when compared to Asian currencies.
- Due to the economic uncertainty prevailing at the international level, the value of the Indian rupee has decreased slightly.
- UPI is leading small scale e-money transactions in India.
- Consideration is also being given to allowing foreign travelers to India to make payments through UPI while traveling.
- Shaktikanta Das also said that QR Code dispensing machines will be introduced in 12 cities.

## **Delhi Mumbai Expressway**

- In 2018, the Union Government launched the Delhi-Mumbai Expressway for a distance of 1,386 kilometers at a cost of one lakh crore to connect the country's capital, Delhi, and the commercial hub, Mumbai.
- It is the longest expressway in the country.
- In the first phase, expressway work has been completed for a distance of 246 km from Delhi to Dausa in Rajasthan at a cost of Rs 12,150 crore.
- Vehicles can travel at a speed of 120 kmph on Delhi Mumbai Expressway
- The Union Government has informed that through this, 30 crore liters of fuel will be saved per year and 80 crore kg of carbon emissions will be prevented and the environment will be protected.

## **Delhi-Mumbai Express Highway**

- This road is being constructed for a distance of 1386 km at a cost of Rs 1.03 lakh crore to connect six states namely Delhi, Haryana, Rajasthan, Madhya Pradesh, Gujarat and Maharashtra.
- It is the longest expressway in the country.
- The expressway, which is currently being constructed as an eight-lane road, has scope for expansion into a 12-lane road.



- The road from Delhi to Mumbai is being constructed using German technology.
- You can travel at a speed of 120 km per hour on this road
- Rest areas are allotted at intervals of 50 kms
- Facilities like accommodation, ATM, grocery store are being made there
- Medical centers are set up every 100 km
- You can travel at a speed of 120 km per hour on this road
- Rest areas are allotted at intervals of 50 kms
- Facilities like accommodation, ATM, grocery store are being made there
- Medical centers are set up every 100 km

## MoU between Government of Tamil Nadu - Renault Nissan

- An MoU was signed to invest Rs 5300 crore and create 2000 new jobs
- France's Renault and Japan's Nissan Auto Motive India Pvt Ltd
- In February 2008, Renault Nissan entered into an MoU with the Government of Tamil Nadu to set up a fully integrated state-of-the-art passenger vehicle manufacturing plant with a production capacity of 4.80 lakh cars in 2007-08 at Chipkat Industrial Park, Oragadam, Kanchipuram district.
- The group has invested more than Rs 13 thousand crores
- It has created over 7000 jobs in the manufacturing sector and over 8000 people in the technology and business hub.

## Tamil Nadu Electric Vehicle Policy - 2023

### Goal

- Revised policy 'Tamil Electric Vehicle Policy - 2023' to better strengthen supply, demand, use and ecosystem in Tamil Nadu with a view to drastically increase the use of electric vehicles.
- This policy will be valid for 5 years.
- 50,000 crore investments and creation of 1.5 lakh jobs in the electric vehicle manufacturing sector.

### Highlights

- Electrification of public transport projects.
- Electric cities will be developed exclusively for reasons such as promoting smart mobility schemes.
- Avail any of the investment incentives like GST tax refund, capital subsidy, first sale basis subsidy, special advanced battery chemistry incentive.
- Other incentives are also available.

### Extension of privileges

- Incentives for charging stations, public charging stations, road tax exemption, registration fee, permit fee waiver will be extended till 31st December 2025.

- Guidelines for exemption from registration of e-autos, issue of trade permits for 'E2w, E4w' vehicles, revision of tariffs for electric vehicle charging, construction of charging stations, provision of capital subsidy etc.
- The Tamil Nadu Integrated Development and Building Rules will be amended in line with the Central Government's Model Building Rules for Electric Vehicle Charging Infrastructure-2016 for capacity building, new buildings, existing flats and residential developments.
- In order to improve the electric vehicle ecosystem, there are features such as setting up of electric vehicle industry parks, creating a vendor ecosystem, creating an exclusive electric vehicle website, and creating a vehicle support service unit of a mentor company.
- A committee headed by the Chief Secretary will be constituted with key departmental secretaries for the development of cities such as Chennai, Coimbatore, Trichy, Madurai, Salem, Tirunelveli, etc. as electric vehicle cities.

## **The longest expressway in the country**

- Length : 1386 km
- Road : 8 ways road; Facility to span 12 lanes
- Project cost : Rs. 98,233 crores
- Vehicle speed : 120 km/hr
- Travel time : Reduces to 12 hours
- Travel advantage : 150 km travel will be reduced.

### **Crossing States**

- Rajasthan : 380 km
- Madhya Pradesh : 370 km
- Gujarat : 300 km
- Maharashtra : 120 km
- Haryana : 80 km

### **Connecting cities**

- Jaipur
- Ajmer
- Chittorgarh
- Bhopal
- Indore
- Vadodara
- Kishangarh
- Kota

- Udaipur
- Ujjain
- Ahmedabad
- Surat

### Special features

- Roadside restaurants
- Food parks
- Fuel stations
- Rest centers for drivers
- Cargo terminals
- Rainwater harvesting drains
- Solar powered lights

### Helicopter Ambulance

- A helicopter ambulance service will be provided to rush the injured to the hospital in the event of an accident on the expressway.

### Routes for animals

- Lanes are being made for animals to cross the expressway easily
- This facility is the first in Asia and the second in the world to be set up on the Delhi Mumbai Expressway.

### Tunnels

- 8-lane tunnels are to be constructed at two points of the expressway
- Tunnels to be constructed in Mukundra Biodiversity Reserve, Rajasthan & Matheran Eco Zone, Maharashtra

### Fuel savings

- The expressway can save more than 32 crore liters of fuel per year
- Carbon dioxide emissions from vehicles can be drastically reduced

### Employment

- The Expressway will create employment opportunities for thousands of people
- Special sales centers will be set up in villages near the expressway
- By that the artisans belonging to those villages will benefit

### Tourism

- Expressway will also boost tourism
- National parks, archaeological sites, biodiversity sanctuaries in the states of Rajasthan, Gujarat, Madhya Pradesh and Maharashtra will increase domestic and foreign tourist arrivals.

## 250 Airbus planes

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- In 2022, Tata Group bought Air India, which was a public sector company
- Following this, Tata Group, which has been improving Air India's operations, is buying 250 aircraft from Airbus
- The number of airports in India has increased from 74 to 147 in the last 8 years.
- India will soon become the third largest country in the world in terms of aviation
- It has been more than 17 years since Air India acquired new aircraft
- Finally, in 2005, an agreement was signed to purchase 68 Boeing and 43 Airbus aircraft
- In this situation, it is important that the Tata Group has signed an agreement to purchase 250 Airbus aircraft

## High flying India

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### UDAN Scheme

- The first UDAN program expanded air transport services to non-metro and secondary cities
- This also improves the supply chain of goods and services
- There are currently 475 Udan routes in operation across the country
- They connect 73 airports, 9 helipads and 2 seaplane bases in the country.
- More than 1.14 crore people have traveled through 2.16 lakh flights since the launch of the UDAN Scheme.
- The number of operational airports in India has doubled from 74 to 147 in the last 8 years
- The UDAN scheme for farmers helps to transport agricultural produce including fruits and vegetables to the markets quickly
- Farmers mainly belonging to the hilly areas of North Eastern states and tribal areas are benefiting greatly
- Farmers are not charged any fee at 58 airports under this scheme.

## GST

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- Goods and Services Tax was implemented on July 1, 2017.
- The GST Act has promised that the compensation to the states will be paid for a period of 5 years.
- In this context, the 49th meeting of the GST Council was held at Vigyan Bhavan in Delhi.

## Economic crisis

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- GDP in the world has been declining recently
- Depreciation
- Interest rate hike

- Rising food and fuel prices have created uncertainty in the global economy

### Economic Development Organization

- According to the Organization for Economic Co-operation and Development, overall global economic growth will be 2.2% this year

### Economic crisis

- An economic crisis usually means that a country's GDP declines for two consecutive quarters.
- Investment expenditure and consumption expenditure play an important role in a country's GDP
- When both of these decrease, growth slows down

### Reasons

- After the corona crisis, the contraction in production of goods and the increase in demand increased the monetary inflation
- Meanwhile, the Russia-Ukraine war also added to inflation

### Hike in Interest rate

- Inflation in the US has hit its highest level in 40 years
- Central banks around the world are raising interest rates to control inflation
- The Reserve Bank of our country has increased the interest rate 6 times in the current financial year alone

### Economic collapse

- Inflation usually leads to an economic downturn
- Because interest rates will be raised to control excessive inflation
- As a result, companies with rising production costs will resort to downsizing
- As a result, incomes fall and consumer demand declines
- Firms cut back on investments when demand falls
- This leads to stagnation
- Foreign exchange inflows more when only one country raises interest rates
- This will increase the value of the country's currency
- Exports will increase and economic growth will occur
- But when the countries of the world raise the interest rate at the same time, there is no increase in exports and no growth.

### Conclusion

- The lack of productivity which is the underlying cause of inflation needs to be corrected

- Attention should be given to workers' wages and welfare policies
- Wages are not only a cost of production for employers
- It should not be forgotten that wages are not only the cost of production for employers but also the income of countless workers
- It is their wages that ensure that the demand for goods does not decrease.
- A market stagnates only when there is a deficiency in demand
- Unemployment problem develops
- Governments should formulate economic policies keeping all this in mind.

## Electric vehicle policy

- The main objective of this policy is to generate investments of Rs 50,000 crore and create 150,000 jobs in the automotive sector.

### Tamil Nadu is leading

- Tamil Nadu is one of the leading states in the production of electric vehicles and their components
- As the third largest state in India with the largest number of vehicles, Tamil Nadu's automotive market holds immense potential
- The economic growth of Tamil Nadu in the last 40 years has greatly urbanized the state.
- During these years sustained vehicle demand grew at 11.64% annually
- E-Vehicle policy will lead to maintain and improve this situation and efficiently face the challenges in the electric vehicle manufacturing industry in accordance with the changing situation.
- A revised new policy aimed at dramatically increasing the use of electric appliances and strengthening the supply, demand, consumption and ecosystem has been released.
- It has been stated that the new policy will remain in force for 5 years from the date of publication or until the new policy is announced and the Government of Tamil Nadu will revise the policy from time to time in the context of departmental developments.
- Electrification of public transport schemes, promotion of smart mobility schemes, development of exclusively electric cities, refund of goods and services tax etc.
- Offers opportunities to avail any of the investment incentives including special advanced cell chemistry offer and other incentives.
- It is also worth noting that the policy also has features such as provision of capital subsidy for setting up of electric substations in the charges for the development of electric vehicles.
- It is also hoped that the electric vehicle guidelines will also be modified for the development of Chennai, Coimbatore, Trichy, Madurai, Salem, Tirunelveli as electric cities and concerted efforts will be made to implement this policy.

## Ahmedabad - Mumbai Bullet train

- India's first bullet train project between Ahmedabad and Mumbai
- The target has been set to run the bullet train by 2026
- In countries including Japan, trains run at a maximum speed of 600 kmph
- We are currently running the Vande Bharat train which runs at a speed of 170 kmph in the country
- National High Speed Rail Corporation was started in 2016
- Currently, in the first phase, with the participation of the states of Gujarat, Maharashtra and the Central Government, a separate bullet train line is being constructed between Gujarat's Sabarmati and Mumbai's Bandra Complex for a distance of 508 km.
- A total of 12 railway stations including 8 in Gujarat and 4 in Maharashtra
- It consists of 465 km of high-level bridge, 9.8 km of bridge over rivers, 6.75 km of arches, 14 km of tunnel, 7 km under sea and 5.22 km of rock excavation.
- Land acquisition for the Rs 1.08 lakh crore project is 98% complete.
- The bullet train will run from 260 kmph to a maximum speed of 320 kmph
- It usually takes six hours to travel from Mumbai to Ahmedabad by train
- It can be reached in 2 hours and 7 minutes by bullet train
- The coach, technology and loan for this train project have been received from Japan
- A bullet train consists of 10 coaches
- It has three types of seats namely First Class, Upper Class, Special Upper Class
- 730 people can travel in it.

### When in Tamil Nadu?

- Ahmedabad-Delhi, Delhi-Ayodhi, Varanasi-Howrah, Hyderabad-Bangalore, Kondia-Mirzapur, Patna-Guwahati, Kondia-Mumbai, Mumbai-Hyderabad Bullet Rail projects will be implemented one after the other.
- Finally, it is planned to build a route from Mysore to Chennai via Bangalore.

## PM Kisan

- PM Kisan Samman Nithi Scheme was introduced in 2019 to provide financial assistance to farmers
- Under this scheme, financial assistance of Rs 6000 per year is being provided to the farming families
- Rs 2,000 in three installments per year are being paid directly into farmers' bank accounts under the pm-kisan samman scheme.

## Airport in Shivamogga

- The airport is named after Kannada national poet Kuvempu.