

TNPSC



SURESH'
IAS ACADEMY

GROUP-II /IIA MAINS WRITTEN EXAM

கல்வியியல் மாற்றியமைப்பு

GENERAL STUDIES

(PAPER II)

TENTATIVE ANSWER KEY

English Medium

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Marks : 300
Time : 3 Hrs

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1. What is Antibiotic Resistance? Explain.**Antibiotic Resistance or Antimicrobial resistance (AMR):**

- Antimicrobial Resistance (AMR), often also called antibiotic resistance, occurs when bacteria, viruses, fungi and parasites no longer respond to medicines they were used to treat the infections they caused, consequently, infections become more challenging to cure, increasing the chance of disease spread, serious illness, and death.

Example:

- MRSA (Methicillin-Resistant Staphylococcus aureus), as per the ICMR Report, MRSA rates are increasing each year from 2016 to 2021 (28.4% to 42.6%).

Antibiotic Resistance occurs because of the following factors:

- Irrational use of antimicrobials.
- Genetic mutations in germs.
- Resilient bugs replicate and become super-bugs.
- Untreated disposal of sewage leading to contamination of water bodies with antibiotic resistant microorganisms.
- Self-medication, access to medication without prescription, and lack of knowledge with regard to the use of antibiotics.

Impact of Antibiotic Resistance

- There is a threat to prevention and treatment of infections which poses a risk to medical procedures such as chemotherapy, organ transplantation, etc.
- Increase in cost of healthcare with longer

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hospital stays, additional tests, and costlier drugs.

- AMR represents an existential threat to modern medicine.
- Increase in neonatal and maternal mortality rate.

Prevention:

- First step in addressing the problem of AMR is to avoid the need for antibiotics at all in the first place. Improved water, vaccination, and sanitation may control inappropriate antibiotic use indirectly.

2. Answer the following.

a) Explain why Lithium Ion Batteries are so vital for Electro vehicle Industry. And also mention its any two limitations.

b) What is the alternative name of C – 60? and mention its uses.

a) Explain why Lithium Ion Batteries are so vital for Electro vehicle Industry. And also mention its any two limitations.

Why Lithium Ion Batteries are so vital for Electro vehicle Industry

1. Lithium-ion batteries are the top choice among manufacturers as the battery for EVs and they currently play a central role in the transition to EVs
2. They also have a high power-to-weight ratio, high energy efficiency, good high-temperature performance, and low self-discharge. so it can hold a lot of energy for their weight, which is vital for electric cars – less weight means the car can travel further on a single charge.

Limitations of Lithium-Ion Batteries.

1. It lasts only two to three years after manufacturer.
2. It is sensitive to high temperatures.

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3. If the battery is completely discharged, it can no longer be recharged again.
4. It is relatively expensive.

b) What is the alternative name of C – 60? and mention its uses.

Alternative Name Of C – 60: Fullerene or Buckminsterfullerene

Uses of Fullerene:

1. Fullerene in its pure state acts as insulators but can be converted to semiconductors and superconductors under suitable conditions.
2. Buckminsterfullerene's ability to trap different atoms or molecules makes them useful in the medical field. For example, radioactive C600 can be used in cancer as well as AIDS therapy.
3. Fullerenes help in improving antiwear and anti-friction properties of lubricating oils.
4. It can catalyse photochemical refining in industry.
5. It has a high electron affinity, hence it is used as common electron acceptor in donor/acceptor based solar cells.
6. Buckminsterfullerene may be used to store hydrogen, possibly as a fuel tank for fuel cell powered cars.

3. What is a 'Bionic Eye'? How does it work? Explain.

What is a 'Bionic Eye'

1. It's an artificial eye which provide visual sensations to the brain. It consist of electronic systems having image sensors, microprocessors, receivers, radio transmitters and retinal chips. Technology provided by this help the blind people to get vision again.
2. It consist of a computer chip which is kept in the back of effected person eye and linked with a mini video camera built into glasses

that they wear. Then an image captured by the camera are focused to the chip which converts it into electronic signal that brain can interpret.

3. The images produced by Bionic eye were not be too much perfect but they could be clear enough to recognize.

Working of Bionic eye:

1. The bionic eye comprises an external camera and transmitter and an internal microchip.
2. The camera is mounted on a pair of eye-glasses, where it serves to organize the visual stimuli of the environment before emitting high-frequency radio waves.
3. The stimulator microchip consists of an electrode array that is surgically implanted into the retina. That functions as an electrical relay in place of degenerated retinal cells.
4. The radio waves that are emitted by the external camera and transmitter are received by the stimulator, which then fires electrical impulses.
5. The impulses are relayed by the few remaining retinal cells and are transduced as normal to the optic nerve pathway, resulting in vision.

Limitations:

- High cost
- Not every type of eye disease affected person will be treated but mainly it help the person affected from retinitis pigmentosa.
- An artificial replacement for a human body is a risky task as it may cause death or some serious situations may occur.
- Not be able to get 100% of perfect vision.

4. Explain the usage of Artificial Intelligence in Agriculture Sector.

Use of Artificial Intelligence in agriculture:

1. Use for predicting the weather:

- Using weather forecasting and artificial

intelligence, farmers can plan the sort of crop that can be cultivated and the best time to plant seeds by analysing meteorological conditions.

2. Soil health surveillance system:

- The kind of soil and nutrition of the soil have a significant impact on the crops that are grown and their quality.
- Due to rising soil degradation, it is difficult to assess the soil's quality.

3. Evaluation of crop health & Pest Management:

- An AI-equipped drone can gather data from fields, which is then sent from the drone to a computer via a USB drive and examined by specialists from the government's agricultural department.
- An in-depth report on the state of the farm's health can be created by analysing the photographs that were captured.
- By identifying pests and germs, farmers can utilise pest control technologies and other timely measures to take the necessary action.

4. Predictive analytics and precision agriculture:

- By giving farmers appropriate guidance concerning water management, crop rotation, timely harvesting, the sort of crop to be grown, optimal planting, pest attacks, and nutrition management, AI applications can aid in correct and regulated farming.
- With equipment as basic as an SMS-enabled phone and the Sowing App, even the last-mile farmer may benefit from artificial intelligence.

5. AI-powered pest detection tool:

- AI systems employ satellite photos and historical data to determine whether any insects have landed and, if so, which species—such as locusts, grasshoppers, and others—have done so.

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- So that farmers may take the necessary precautions, it can then send alerts to their smartphones.

6. Grading of Agricultural Products:

- An accurate and trustworthy way for grading fresh products (fruits, grains, vegetables, cotton, etc.) that are characterised by colour, size, and form is an automated quality analysis of photographs of food products.
- Without requiring any manual intervention, the farmer can use his phone to take a picture and instantly assess the quality of his produce.

7. Finding weeds:

- AI can effectively be used for differentiating between weeds and crop seedlings. It is one of the most efficient non-chemical ways of reducing weeds.

8. Irrigation:

- AI helps in irrigating agricultural fields. It can monitor and analyze the soil moisture and other conditions, such as aridity or humidity in the surrounding atmosphere, and then open water valves to provide water to the fields automatically, without any human involvement.

9. Agriculture Insurance:

- The AI-enabled agriculture insurance can help in the faster assessment of damaged crops and faster reimbursement of insurance to the farmers.

5. Explain the following.

- Graphene is frequently in news recently. What is its importance?**
- How the ship which is made up of Iron is floating while the needle which is also made up of iron is sinking in the water?**

a) Graphene is frequently in news recently. What is its importance?

- Graphene is an allotrope of carbon in the form of a two-dimensional, atomic-scale, honeycomb lattice in which one atom forms each vertex.
- It is the basic structural element of other allotropes, including graphite, charcoal, carbon nanotubes and fullerenes.

Importance of Graphene:

1. Graphene stands out for being tough, flexible, light, and with a high resistance. It's calculated that this material is 200 times more resistant than steel and five times lighter than aluminium
2. It can be used as 'conducting electrodes' required for touch screens, LCDs and organic LEDs.
3. It is electrically and thermally conductive but also transparent.
4. It is the world's first 2D material and is one million times thinner than the diameter of a single human hair. and has good electrical conductivity
5. It is one of the thinnest but strongest materials tested so far.

b) How the ship which is made up of Iron is floating while the needle which is also made up of iron is sinking in the water?**Explanation:**

- The density of iron is more than the density of water therefore the weight of the nail is more than the upthrust experienced by it causing it to sink.
- However a ship although much larger than the nail floats because the ship is hollow from inside and this space is filled with air which reduces the average density of the ship lower than that of water.
- Thus even with a small portion of the ship submerged under water, the weight of the water displaced by it becomes equal to the weight of the entire ship.

6. What is E20? List out its applications.**E20 Fuel:**

- E20 refers to the mixture of petrol and ethanol in a specific quantity. In the case of E20, 20 denotes the percentage of Ethanol mixed with gasoline. Essentially, the number signifies the percentage of Ethanol in petrol.
- India currently uses about 8.5% Ethanol blend with petrol which is already the highest that we have been.
- The aim is to have fuels with a 10% Ethanol blend by 2022. And by 2025, the 20% Ethanol mix is what the Government aims to achieve.

Why is E20 a biofuel?

- Ethanol is made by fermenting sugar, a natural source. It leaves very minimal residue while burning and therefore, keeps the air clean. India produces a lot of sugarcane and therefore, E20 has good potential to meet the fuel demands of the country.

What are the advantages of E20 Fuel?

- Using ethanol-blended petrol for vehicular applications has a lot of benefits. One of them is certainly the reduction in pollution levels. Biofuel is known for being a lesser pollutant. This will certainly help in bringing down the pollution level if used on a mass scale.
- India currently imports 85% of its total fuel. This results in a huge bill for crude oil. Using 20% ethanol-blended fuel for vehicles in India means the country will save a lot of money by reducing import.
- New technology implementation means there will be opportunities for new job creation. The original equipment manufacturers (OEMs) and their component suppliers and aftermarket service-providing segments will witness new job creation.
- The Indian government claims that the target of achieving 20% ethanol in petrol will help the agriculture sector. The requirement of ethanol as an output will help increase farmers' income.

7. Differentiate between following two with examples:

a) Autotrophic Nutrition and Heterotrophic Nutrition.

b) Intra Cellular Digestion and Extra Cellular Digestion

a) Autotrophic Nutrition and Heterotrophic Nutrition.

Autotrophic Nutrition	Heterotrophic Nutrition
The organisms are capable of preparing their own food using simple substances that are available in their surroundings.	The organisms completely depend on others for their nutrition. They depend on surrounding plants and animals for food.
The conditions necessary for autotrophic nutrition are carbon dioxide, water, chlorophyll and water.	They cannot make the food from available inorganic substances like carbon dioxide, water and sunlight
Phototrophic and Chemotrophic are the two types of autotrophic nutrition	Holozoic, parasitic, symbiotic association, and saprophytic are the four types of heterotrophic nutrition
Plants are an example of autotrophic nutrition	Animals and some plants are an example of heterotrophic nutrition
Autotrophs are the producers in the food chain	Heterotrophs are the consumers in the food chain

b) Intra Cellular Digestion and Extra Cellular Digestion

Intra Cellular Digestion	Extra Cellular Digestion
Intracellular digestion refers to a form of digestion where the break down of materials into small components takes place inside the cell	Extracellular digestion refers to a form of digestion where the break down of materials into smaller components takes place outside the cell
Occurs inside food vacuoles within the cell	Occurs outside the cell in the lumen of the alimentary canal or on the decaying organic materials
Ingestion occurs through a phagocytic vesicle	Ingestion occurs through the mouth
Digestive enzymes in the lysosomes are secreted into the food vacuole	Glands of the alimentary canal secrete digestive enzymes into the lumen
Only the chemical digestion of food occurs	Both mechanical digestion and chemical digestion occur
Nutrients diffuse into the cytoplasm through the membrane of the vacuole	Nutrients are absorbed into the blood through the gut epithelia
Indigestible materials are excreted through exocytosis	Indigestible materials are excreted through the anus
Simple mechanism of digestion	Complex mechanism of digestion
Vesicles are involved	Organs and glands are involved

8. Write a short note on India's first Indigenous vaccine against cervical cancer.**CERVAVAC :****About:**

- It is India's first indigenously developed quadrivalent human papillomavirus (qHPV) vaccine that is said to be effective against four strains of the virus - Type 6, Type 11, Type 16 and Type 18.
- It was developed by the Pune-based Serum Institute of India in coordination with the Department of Biotechnology (DBT).
- A quadrivalent vaccine is a vaccine that works by stimulating an immune response against four different antigens, such as four different viruses or other microorganisms.
- CERVAVAC is based on VLP (Virus-Like Particles), similar to the Hepatitis B vaccination.

Approval:

- The vaccine has received the Drugs Controller General of India's approval and has been cleared by the government advisory panel NTAGI for use in the public health programme.

How common is cervical cancer in India?

- India accounts for about a fifth of the global burden of cervical cancer, with 1.23 lakh cases and around 67,000 deaths per year.
- Almost all cervical cancer cases are linked to certain strains of human papillomavirus (HPV), a common virus that is transmitted through sexual contact.
- The body's immune system usually gets rid of the HPV infection naturally within two years.
- However, in a small percentage of people, the virus can linger over time and turn some normal cells into abnormal cells and then cancer.

Significance of CERVAVAC:

- It has a significant potential to eliminate cervical cancer and it would be helpful if included in national HPV vaccination efforts and offered at a lower cost than existing vaccinations.
- The vaccine is extremely effective only when it's administered before the first sexual intercourse.
- Despite being largely preventable, cervical cancer is the fourth most common cancer among women globally, according to the WHO.
- In 2018, an estimated 57000 women were diagnosed with the disease and it accounted for 311,000 deaths across the world.

9. What is meant by cyber-security? What initiatives are being taken by the government to enhance cyber-security in India?**Definition:**

- Cyber security or information technology security are the techniques of protecting computers, networks, programs, and data from unauthorized access or attacks that are aimed for exploitation.

Components of Cyber Security

1. Information security: It is related to the protection of information from an unauthorized access to avoid identity theft and to protect privacy.
2. Network Security: It includes activities to protect the usability, reliability, integrity and safety of the network.
3. Disaster Recovery Planning: It is a process that includes performing risk assessment, establishing priorities, developing recovery strategies in case of an attack.

Initiatives being taken by the government to enhance cyber-security in India:

1. Information Act, 2000: The Information Act, 2000 (amended in 2008) is the primary law for dealing with cybercrime and digital commerce in India.
2. National Cyber Security Policy, 2013: The policy provides the vision and strategic direction to protect the national cyberspace.
3. The CERT-In (Cyber Emergency Response Team – India): CERT-In has been operational since 2004. It is the national nodal agency for responding to computer security incidents as and when they occur.
4. Indian Cyber Crime Coordination Centre (I4C): The Union Government has decided to set up I4C. It will be apex coordination centre to deal with cybercrimes.
5. Cyber SwachhtaKendra: Launched in early 2017, the Cyber Swachhta Kendra provides a platform for users to analyse and clean their systems of various viruses, bots/ malware, Trojans, etc.
6. Cyber Surakshit Bharat: Ministry of Electronics and Information Technology, launched the Cyber Surakshit Bharat initiative to spread awareness about cybercrime and building capacity for safety measures for Chief Information Security Officers (CISOs) and frontline IT staff across all government departments.
7. The Cyber Warrior Police Force: In 2018, the government announced its plans to introduce CWPF. It is proposed to be raised on lines of the Central Armed Police Force (CAPF).
8. Cyber-Crime Prevention against Women & Children' Scheme: Implemented by the Ministry of Home Affairs, the scheme aims to prevent and reduce cybercrimes against Women and children.

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9. National Cyber Security Strategy 2020
 - Indian Government is coming up with the National Cyber Security Strategy 2020 entailing the provisions to secure cyberspace in India. The cabinet's nod is pending and it will soon be out for the public.
10. International operations;
 - India is the participatory in the following international forums-
 1. Budapest Convention on Cybercrime, 2001;
 2. Global Centre for cyber security-Geneva
 3. Global conference on Cyber Space 2011
 4. Commonwealth Cyber Declaration' at the Commonwealth Summit 2018:

Section - B**1. Mention the various Anti-Corruption measures of government****Legal Framework for Fighting Corruption:**

1. Prevention of Corruption Act, 1988
2. The Prevention of Money Laundering Act, 2002
3. The Companies Act, 2013
4. The Indian Penal Code, 1860
5. The Foreign Contribution (Regulation) Act, 2010
6. Whistle-blower Protection Act, 2014

Regulatory Framework:

7. Lokpal and Lokayuktas, under The Lokpal and Lokayuktas Act, 2013
8. The Central Vigilance Commission and state vigilance commissions
9. Comptroller and Auditor General of India. (Article 148)
10. Anti-corruption wing of CBI.
11. Central and state information commissioners under RTI-Act-2005

12. Various ombudsman available in each departments

2. Explain the following two:

a) Culture of poverty

b) Vicious Circle of poverty

a) Culture of poverty

- The idea of 'Cultural Poverty' was given by Oscar Lewis.

Explanations:

- The 'culture of poverty' is a concept popularized by the anthropologist Oscar Lewis during the 1960s in his best-selling ethnographic realist books on family life among the urban poor.
- The theory of the culture of poverty suggests that poverty is the result of people's values or cultural norms.
- The theory suggests that we learn certain norms when we grow up in a family that is poor, and this shapes our life choices and opportunities.
- We internalize the values we grow up with, which explains why people who grow up poor often remain poor.

Examples:

- Lewis argued that children who grew up in very poor conditions, like a slum for example, will internalize feelings of hopelessness or desperation that characterize these living conditions.
- As these children grow up, they will be unable to take advantage of opportunities that might exist, a kind of psychological phenomenon that accompanies living in dire circumstances.

b) Vicious Circle of poverty

- Vicious Circle of poverty was given by Professor Ragnar Nurkse in 1953.

- He demonstrates a low level of economic activity.
- It consists of two levels,
 1. supply level, and demand level.
 2. Low investment rates will cause productivity to decline, further lowering income levels.
 3. The phrase "vicious circle of poverty" refers to the idea that poverty causes poverty.
 4. People who are impoverished often stay poor and pass on their circumstances to subsequent generations.

Two main solutions:

- The solution to the supply side of the vicious circle: An increase in savings and investments should be done.
- A solution to the demand-side vicious circle: The extent of the market should be widened so that people invest more.

3. Explain any three government measures to tackle open defecation in Rural India.

India's Measures against open defecation

1. Swachh Bharat Mission

- The Swachh Bharat Abhiyan or Mission, launched on 2nd of October 2014, is so far the largest programme on sanitation by Indian Government. It has two sub-Missions viz. Swachh Bharat Mission (Rural) and Swachh Bharat Mission (Urban).
- It emphasizes the sustainability of achievements under phase I and to provide adequate facilities for Solid/Liquid & plastic Waste Management (SLWM) in rural India.
- Under the Swachh Bharat Mission Phase-I, more than 10 crore individual toilets have been constructed since the launch of the mission; as a result, rural areas in all the States have declared themselves ODF as on 2nd October, 2019.

2. National rural sanitation strategy:

- The Department of Drinking Water and Sanitation (DDWS) under the Ministry of Jal Shakti has launched the 10-year Rural Sanitation Strategy starting from 2019 up to 2029.
- It lays down a framework to guide local governments, policy-makers, implementers and other relevant stakeholders in their planning for Open Defecation Free (ODF) Plus status, where everyone uses a toilet, and every village has access to solid and liquid waste management.

3. Darwaja Band Campaign:

- The Ministry of Drinking Water and Sanitation has launched a nationwide campaign titled 'Darwaja Band' to promote toilet use and freedom from open defecation across the villages of the country.
- The campaign will run under the Swachh Bharat Mission. The campaign will be rolled out immediately across the country.
- Darwaja Band symbolically stands for shutting the door on open defecation.

The campaign is supported by the World Bank.

- The campaign envisages to bring about a behaviour change in men who have toilets but are not using them.s of the country.

4. Smart Cities Mission

- The Smart Cities Mission looks to connect the drainage systems of public and household toilets to sewage treatment plants, and smoothen the flow of septage
- To Ensuring uniform sewage disposal mechanisms across an ODF urban area
- Disposal of septage should be directly linked to sewage treatment plants, so as to ensure that the waste from the toilets go straight for treatment.

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4. Briefly write about the National Bio Energy Programme.

Origin:

- The Ministry of New and Renewable Energy has notified the National Bioenergy Programme in November 2022.
- MNRE has continued the National Bioenergy Programme for the period from FY 2021-22 to 2025-26.
- The Programme has been recommended for implementation in two Phases:
- The Phase-I of the Programme has been approved with a budget outlay of Rs. 858 crores.

The National Bioenergy Programme will comprise the following sub-schemes:

Waste to Energy Programme

- It is Programme on Energy from Urban, Industrial and Agricultural Wastes /Residues to support the setting up of large Biogas, BioCNG and Power plants.
- Indian Renewable Energy Development Agency (IREDA) will be the implementing agency for the program.

Biomass Programme

- It is a Scheme to Support Manufacturing of Briquettes & Pellets and Promotion of Biomass (non-bagasse) based cogeneration in Industries to support setting up of pellets and briquettes for use in power generation and non-bagasse based power generation projects.

Biogas Programme

- To support setting up of family and medium size Biogas in rural areas.

Advantages of Bioenergy

1. It helps in providing clean cooking through biogas.

2. Co-firing in thermal power plants by utilizing biomass pellets and briquettes and BioCNG for transport.
3. improved sanitation, women empowerment and creation of rural employment.
4. Organic enriched Bio-manure waste is a rich source of manure which shall benefit farmers in supplementing / reducing the use of chemical fertilizers.
5. It is carbon neutral.
6. It reduces the overreliance of fossil fuels:.
7. Less expensive than fossil fuels:

5. Evaluate the measures taken by RBI towards controlling the Inflation in the country.

Measures taken by RBI

- To control inflation, the Reserve Bank of India needs to decrease the supply of money or increase cost of fund in order to keep the demand of goods and services in control.

a) Quantitative tools ;

- The tools applied by the policy that impact money supply in the entire economy, including sectors such as manufacturing, agriculture, automobile, housing, etc.

1. Reserve Ratio:

- Cash Reserve Ratio (CRR) – Banks are required to set aside this portion in cash with the RBI. The bank can neither lend it to anyone nor can it earn any interest rate or profit on CRR.
- Statutory Liquidity Ratio (SLR) – Banks are required to set aside this portion in liquid assets such as gold or RBI approved securities such as government securities. Banks are allowed to earn interest on these securities, however it is very low.

2. Open Market Operations (OMO):

- In order to control money supply, the RBI buys and sells government securities in the open market.

b) Qualitative tools:

- Unlike quantitative tools which have a direct effect on the entire economy's money supply, qualitative tools are selective tools that have an effect in the money supply of a specific sector of the economy.

1. Margin requirements – The RBI prescribes a certain margin against collateral, which in turn impacts the borrowing habit of customers. When the margin requirements are raised by the RBI, customers will be able to borrow less.
2. Moral suasion – By way of persuasion, the RBI convinces banks to keep money in government securities, rather than certain sectors.
3. Selective credit control – Controlling credit by not lending to selective industries or speculative businesses.

c) Market Stabilisation Scheme (MSS)

Policy Rates:

1. Bank rate – The interest rate at which RBI lends long term funds to banks is referred to as the bank rate.
2. Liquidity Adjustment Facility (LAF) – RBI uses LAF as an instrument to adjust liquidity and money supply. The following types of LAF are:
 - a. Repo rate: Repo rate is the rate at which banks borrow from RBI on a short-term basis against a repurchase agreement.
 - b. Reverse Repo rate: It is the reverse of repo rate, i.e., this is the rate RBI pays to banks in order to keep additional funds in RBI.
3. Marginal Standing Facility (MSF) Rate: MSF Rate is the penal rate at which the Central

Bank lends money to banks, over the rate available under the rep policy.

Evaluation:

- It is commonly acknowledged that controlling an economic phenomenon such as inflation is no easy task, especially in such a large, diverse, and complicated economy. The RBI, on the other hand, may be able to build a comprehensive approach to stabilizing the minimum necessary rate of inflation by combining traditional procedures with other premium options.

6. What are the recommendations of Rajamannar Committee? Why it was setup?

- Rajmanner Commission was set up by the then DMK Government of Tamil Nadu in 1969 under the Chairmanship of Dr P.V. Rajamannar.
- It was appointed to look into the question regarding the relationship that should subsist between the Centre and the States in a federal set-up.
- It submitted its report in 1971.

Important recommendations

1. It demanded readjustment of the VII schedule and residuary power to the states
2. The setting of an Inter-State council immediately
3. Finance commission to be made a permanent body
4. Deletion of Articles 356, 357, and 365 which dealt with the President's rule
5. Abolition of All-India Services (IAS, IPS, and IFS)
6. Planning Commission to be replaced by a statutory body

7. Explain briefly about the following.

- a) What is Kushiyara River Treaty? Give its significance.**

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b) Explain about Nikshay - Mitra – 2.0 Scheme.

- a) What is Kushiyara River Treaty? Give its significance.**

7 MoUs Signed

- Withdrawal of water by India and Bangladesh from common Border River Kushiyara.
- Training of Bangladesh Railway Personnel in India.
- Collaboration in IT systems such as FOIS and other IT Applications for Bangladesh Railway (mainly freight)
- Scientific and Technological cooperation between CSIR (Council for scientific and Industrial Research)
- Cooperation in the areas of space Technology.
- Prasar Bharti and Bangladesh Television on cooperation in Broadcasting.
- Training and capacity Building Programme to Bangladesh Judicial officers in India.

Reason

- Requirement for greater cooperation on flood control and irrigation related issues.
- Sylhet Region of Bangladesh gets water from Kushiara River.

Kushiara River

- Distributory of the Barak River.
 - Manipur
 - Nagaland
 - Mizoram
 - Assam
- Further, this Barak River enters Bangladesh & form distributory
 - The Surma
 - The Kushiyara

Importance of Kushiara Agreement

- Flow of the Barak river has changed.
- River's more amount of water flows into kushiara while the rest of small amount goes into surma
- Flood during Moosoon, Dry during Winter

By this Agreement

- Bangladesh will be able to Withdraw 153 Cusec of Water from the Kushiara, Out of the 2,500 cusecs of water there in river during winter season.

Benefits

- Solve the water crisis for farmers of sylhet.
- 10,000 Ha of land and millions of people, benefitted
- Boro Rice Cultivation.
- Channelled through the Rahimpur Canal project in Sulhet - 8km long Canal
- Only supplier of water from the Kushiara to the region. only way to ensure steady supply of water for Irrigation of Agriculture fields and orchards of the subdivisions of Sylhet.

India's objection to the Rahimpur Canal

- Initially, Bangladesh carried out Upper Surma Kushiara Project baring and dredging of the canal and other connected channel of water.
- India objected and claimed that the dyke and other infrastructure interferred in Border security.
- Kushiara forms part of the border between the two sides.
- Economic benefits possible from the river outweighed the security concerns.

Hurdles to the Teesta Agreement.

- Kushiara Agreement is relatively smaller.
- Kushiara Agreement did not require a nod

from any of the state.

- Reduced water flow in Teesta too during winter.
- Afect Communities & trigger migration. (forced migration)

Some Issues

- Teesta-River Agreement bending since 2011

Agreements - 2019

- Use of Chattagram & Mongla Port in Bangladesh
- Use of Bangladesh's Feni River for drinking water supply in Tripura
- Bangladesh & Tripura Irland Water Trade Route.
- Estl of Coastal Surveillance Rodar System in Bangladesh.
- Sharing agreement for 6 Rivers, Manu, Muhuri, Khawari, Gomati, Tripura
- Dudhkumar River West Bengal
- Dharla River Bangladesh
- Implementation of Lines of Credit.
- Consensus on lifting Restrictions on entry & exit from land ports in India & Bangladesh.

b) Explain about Nikshay - Mitra – 2.0 Scheme.**Ni-Kshay Mitra****Adopt a TB patient scheme**

- Recently, the president has launched the PM-TB Muht Bharat Abhiyaan and announced Nikstay 2.0 portal to eliminate TB by 2025

TB Prevalence in India:

- India - World's highest tuborculosis burden
- 26 people contracting the disease (2021)
- Approximately 4 lakh people dying from it every year
- Maharashtra - highest No. of TB - 1,48,000

- Mortality - increased by 11 % between 2019 and 2020
- Nikstay Mitra is a crowd sourced programme that allows organisation and individual to adopt TB patient and support them directly with Nestritional supplies and vocational training.
- Provides a platform for donors to provide various forms of support to those undergoing TB treatment.
- Three - prolonged support:
 - Nutritional
 - Additional diognostic
 - Vocational support

Adoption provision for corporates and NGO:

Nikstay Mitra indudes:

- Corperative societies
- Corporates
- Elected representatives
- Individuals
- Institutions
- NGO
- Adopt TB patient by committing support for 1 - 3 years.
- Sponsors can select the number of patients as per their capacity.
- Monthly food Basket: of worth Rs. 700/-

Food Items	For adults	For children
Coreals	3 kg	2 kg
Millets	1kg	-
Pulses	1.5 kg	1 kg
Vegetable cooking oil	250 g	150 g
Milk powder	1 kg	750 g
Egg (optional)	30 Nos	30 Nos

- The sponsors may offer vocational training to family members of the TB patient.

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- Ni - Kstay 2.0 portal.
- <https://communitysupport.nikshay.in/>
- Nikstay helpline: 1800 - 11 - 6666
- March 24 - World TB day
- Theme: Invest to end TB save lives

Global Initiatives:

- WHO - Launched joint initiative
- "Find - Treat - All # End TB"
- Since - 1997 - Global Tuberculosis Report - India - 27%

Indian efforts:

- Government Aims to have a TB - free India by 2025, five years ahead of the global target of 2030.
- National Tuberculosis elimination programme
- National strategic plan
- To end TB by 2025
- Under pillars of Detect (DT - PB)
 - Treat
 - prevent
 - build

The sakshom project

- It is a project of the Tata Institute of Social Sciences (TISS) that has been providing psycho - social counselling to DR - TB patients.

8. What is RVM? and what are its pros & cons? What is the current proposal of government to implementing it?

What is Remote Electronic Voting Machine?

- The new RVM prototype will enable a voter, who is listed in constituencies, to exercise voting rights from a single machine.
- The multi-constituency remote EVM, developed by a public sector undertaking, can handle up to 72 constituencies from a single remote polling booth.

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- c) Migrant voters would not need to travel to their home districts to exercise their franchise if the remote electronic voting machine is implemented properly.
- d) The remote e-voting machine will be a stand-alone device which doesn't need connectivity to operate.
- e) The Representation of the People Act, The Conduct of Election Rules and The Registration of Electors Rules will need to be amended to introduce remote voting.

How does it work?

- a) The RVMs will have the same security system and voting experience as the EVM, with the modification of an electronic ballot display with candidates and symbols instead of a fixed ballot paper sheet.
- b) When the voter scans his/her constituency card in the presence of the Presiding Officer at the station, their respective constituency and candidate list will appear on the RVM display.
- c) As for counting the votes, the electronic system will also count and store the votes for each candidate in a constituency.

Need:

- a) As per the 2011 census, 45.36 crore Indians (37% of the population) were internal migrants, settled in a place different from that of their registered residence.
- b) While 67.4% of the eligible 91.2 crore Indians voted in the 2019 Lok Sabha election, about one-third or close to 30 crore voters did not cast their vote.
- c) Inability to vote due to internal migration (domestic migrants) is one of the prominent reasons to be addressed to improve voter turnout and ensure participative elections.

9. Examine the role of NGO in the developmental activities of the Government.**Role of NGOs in Indian Democracy**

1. **Bridging The Gap:** NGOs endeavour to plug gaps in the government's programmes and reach out to sections of people often left untouched by state projects. For example, providing aid to migrant workers in Covid-19 crisis.
 - a. Also, they are engaged in diverse activities, relating to human and labour rights, gender issues, healthcare, environment, education, legal aid, and even research.
2. **Role of an Enabler:** Community-level outfits and self-help groups are critical for bringing any change in the ground.
 - a. In the past, such grass roots organisations have been enabled by collaborations with bigger NGOs and research agencies that have access to foreign funding.
3. **Acting as a Pressure Group:** There are political NGOs that mobilise public opinion against government's policies and actions.
 - a. To the extent such NGOs are able to educate the public and put pressure on public policy, they act as important pressure groups in a democracy.
 - b. They also mobilize and organize the poor to demand quality service and impose a community system to accountability on the performance of grassroots government functionaries.
4. **Role in Participative Governance:** Many civil society initiatives have contributed to some of the path-breaking laws in the country, including the Environmental Protection Act-1986, Right to Education Act-2009, Forests Rights Act-2006 and Right to Information Act-2005.

12 Marks

5. **Acting as a Social Mediator:** The social inter-mediation is an intervention of different levels of society by various agents to change social and behavioural attitudes within the prevailing social environment for achieving desired results of change in society.
- a. In Indian context wherein people are still steeped in superstition, faith, belief and custom, NGOs act as catalysts and create awareness among people.

Issues Emanating From NGOs

1. **Lack of Credibility:** During the last few years, numerous organisations have mushroomed which claim to work for the cause of helping the poor.
 - a. Under the garb of being an NGO, these NGOs often mint money from donors and are also involved in money laundering activities.
 - b. There is nearly one NGO for every 400 people in India. However, not every NGO out there is engaged in serious social welfare work. Many are fraudulent and many are there without much serious intent.
2. **Lack of Transparency:** India's disproportionate number of NGOs and the sector's lack of transparency and accountability is clearly an issue that needs reforms.
 - a. Further the allegations of corruption against NGOs be ignored. In the past many NGOs were blacklisted after being found to have indulged in misappropriation of funds.
3. **Undermining Development Activities:** A report by India's Intelligence Bureau accused NGOs such as Greenpeace, Cordaid, Amnesty, and Action Aid for reducing India's GDP by 2-3% per year.

1. **Freebies not only include unviable pre-election promises but also a number of services that the government provides to meet its constitutional obligations (DPSPs) towards citizens like PDS, Free Covid Vaccine and mid-day meals etc. Justify.**

What are Freebies?

- Political parties promise to offer free electricity, monthly allowance to unemployed, daily wage workers, and women as well as gadgets like laptops, smartphones, etc. in order to secure the vote of the people.
- The states have become habituated to giving freebies, be it in the form of loan waivers or free electricity, cycles, laptops, TV sets, and so on.
- Certain kinds of expenditure that are done under populist pressures or with elections in mind may be questionable.

Positive Side of Freebies in India

1. **Welfare Schemes:** Freebies not only include unviable pre-election promises but also a number of services that the government provides to meet its constitutional obligations (DPSPs) towards citizens like PDS, Free Covid Vaccine and MGNREGA.
2. **Upliftment of Lower Class:** As the states with comparatively lower levels of development have a greater percentage of their population living in poverty, such freebies become more useful for upliftment of lower strata in these states.
3. **Essential for Fulfilling Expectations:** In a country like India where the states have (or don't have) a certain level of development, upon the emergence of the elections, there are expectations from the part of people

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which are met by such pro-employment-freebies build a healthier and a stronger workforce, which is a necessary part of any growth strategy.

4. **Poverty reduction-** There have been studies which showed the poverty-reducing effect of the Public Distribution System.
 - The free or subsidised rations under PDS allows foodgrains to be available for cheap for consumers while assuring remunerative prices to farmers.
5. **Food security-** Subsidised foodgrains distributed under the PDS contribute to ensuring basic food security.
 - The Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) kept many away from the brink of starvation during the novel coronavirus pandemic.
6. **Education-** Mid-day meals in schools have been proven to contribute to increased enrolment and retention in schools and address classroom hunger.
 - It also resulted in keeping the evil of child labour under control.
7. **Women empowerment-** Tamil Nadu government's free bus pass for women has encouraged more women to join the workforce, in turn leading to economically stable families and women's empowerment.
8. **Reduction in social evils-** The introduction of free colour television in villages has resulted in decrease in domestic violence and also enabled women's empowerment as women have been able to connect with the outside world through visual media.
 - It has ensured self-respect, as women and children are able to watch TV in their houses rather than visit the homes of those who are rich and own TV sets.

9. **Increased productivity-** Subsidies such as free laptops have now become necessities for increasing productivity, knowledge and skills.

- The small amounts given to the poor are called 'freebies', while freebies that the rich get through low tax rates and exemptions are referred as 'incentives'.

10. **Boost industrial growth-** In Kerala, fiscal incentives are given to encourage corporates/entrepreneurs to boost industrial growth.

Arguments against Freebies

1. **Drain on Public Spending:** Most of the times, freebies ultimately lead to an excessive and unnecessary drain on public spending, and add economic burden on states as most Indian states suffer from a poor financial condition and have limited revenue resources.
2. **Freebies for One, Disaster for Other:** As a result of reducing prices for consumers beneficiaries, the government overcharges industrial and commercial contracts in order to maintain the internal fiscal balance.
 - Subsequently the competitiveness of growing industries is reduced, which results in slower industrial growth and commercial price hike.
3. **Increased Fiscal Deficit:** Subsidies and freebies create pressure on government revenues, leading to an increased fiscal deficit and increased interest payments.
4. **Distort Informed Decision Making of Voters:** Unregulated populism by offering and distributing 'irrational freebies' during election campaigns often create bias in the minds of voters.

Conclusion:

- Concern over freebies (Rewari culture) in Indian politics has recently been expressed by those in the highest offices in the country.

- As per Article 282, the Union or a State may make any grants for any public purpose. Meanwhile, the lawmakers have a better understanding of how their investment will flourish in the future. Instead of a politically motivated will, a welfare approach is needed at this hour.
- The economic impact must be kept in mind how it impacts the economic health of the state and must consider how it is going to enhance the life of the beneficiary.
- It is important to distinguish between welfare and freebies by the states, as said by the Supreme Court. Also, to make sure that there is no leakage in delivery and that it directly benefits the target audience.

2. Write about the following.

- a) What is meant by delegation of power? What are the advantages of delegation of power?
- b) Explain the significance and shortcomings of the RTI act?

- a) What is meant by delegation of power? What are the advantages of delegation of power?

What is Delegation of power:

1. It means transfer of a specific authority by one of the three branches of government (executive, legislative, and judicial) to another branch or to an independent agency
2. 'Delegated legislation' refers to the exercising of legislative power by an agent who is lower in rank to the Legislature, or who is subordinate to the Legislature.
3. The Parliament of India delegates certain functions to authorities established by law since every aspect cannot be dealt with directly by the lawmakers themselves.

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4. The delegated legislation would provide operational details, giving power to those executing the details. Regulations and by-laws under legislation come under delegated legislation

Advantages of Delegated Legislation

1. **Solution for Limited time of Legislature:** Legislature has limited time to make laws on each and every matter. It does not have enough time to enact the laws in detail.
2. **Solve the issue of Lack of speciality:** Legislature has a limited speciality in the case of technical details. After making a structure, the job is delegated to the government department having expertise.
3. **Meet the Emergency situation:** In case of internal or external emergency, the legislature is not equipped with the skills of providing an urgent solution.
4. **Face the Complex conditions:** Modern administration is complex, which requires additional focus on holistic issues such as employment, health, education, regulating trade, etc. while making laws.
5. **Lays the basis for the effective operation of the organization :** Delegation lays the basis for the effective operation of the organization. It creates relationships with others and achieves various organizational goals. It creates relationships with others and achieves various organizational goals.
6. **Allows more time to other important matters :** Delegation of authority allows a manager to allot more time to important matters such as planning, organizing, staffing, managing and coordinating, controlling, and making decisions.
7. **Helps superior to get benefit from the experience of different employees :**

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Delegation helps the superior to get the benefit from the experience of different employees at lower levels. For example, production is delegated to a production manager, sales to a salesperson, legal issues to a lawyer, and so on.

8. **Increases administrative capacity** : Delegation allows subordinates to perform administrative tasks, which undoubtedly increases administrative capacity. He is spared from routine work and cares about important complex issues.

b) Explain the significance and shortcomings of the RTI act?Significance of the RTI Act

- **Anti-corruption tool**: In the past 17 years, it has been instrumental in uncovering a list of major scams. Scams like Adarsh Society Scam, 2G scam, Commonwealth Games Scam, Indian Red Cross Society Scam are some noticeable achievements under RTI.
- **Empowered people's voice**: The RTI Act has empowered people in containing corruption and bringing transparency and accountability in the working of the Government.
- **Strengthened Democracy**: Every citizen has the right to claim information from public authorities under the Act. This has strengthened democracy through active participation of the public.
- **Transparency and Accountability**: A large amount of information has to be placed in the public domain by ways of manuals prescribed under the Act

Issues associated with the functioning of the RTI Act

- **Threats to RTI Activists**: According to the Commonwealth Human Rights Initiative

(CHRI), across India, 99 RTI activists have lost their lives, 180 assaulted and 187 were threatened since 2006.

- **Shortcomings of CICs and SICs**: Barring some notable exceptions, the State Information Commissions have remained dysfunctional.
- **Rising Pendency**: The pendency of cases under the Central Information Commission has been rising.
- **Judicial Bottlenecks**: Several RTI cases are embroiled in judicial procedures as courts are quick to give stay orders on CICs' decisions
- **Frivolous RTIs**: An oft-repeated excuse by bureaucrats for their unprofessional attitude is the number of frivolous queries or those with perverse motives. The reality, however, is that such queries constitute only around 4% of the total appeals and can easily be managed.
- **Downgrading status of Information Commissioners**: The salaries, allowances and other terms of service of information commissioners are now decided by the Union Government while earlier these were at par with election commissioners.
- **Low awareness level**: Awareness about RTI is still very low. Awareness level is low, especially among the disadvantaged communities such as women rural population, OBC/SC/ST population.

3. Analyze the contributions of manufacturing sector in TamilNadu's Development and elucidate the issues and challenges faced by this sector.

- Tamil Nadu is the fourth-largest state of India. It has a diversified manufacturing sector and features among the leaders in several industries like automobiles and auto components, engineering, pharmaceuticals, garments,

textiles, leather, chemicals, plastics, etc. It ranks first among the states in terms of the number of factories and industrial workers.

Contribution of Manufacturing sector of Tamilnadu in GDP of India

- Tamil Nadu is now an economic and industrial powerhouse. Tamil Nadu is the second largest State economy in India and accounts for 9.47% of India's Gross Domestic Product (GDP) in Financial Year 2020-21.
- Tamil Nadu's economy rebounded sharply in Financial Year 2021-22, with the GSDP increasing from Rs.19.02 lakh crore to Rs.21.79 lakh crore at current prices.
- Further, the Index of Industrial Production (IIP) for Tamil Nadu grew at 9.5% from 124.5 to 136.3 between April 2021 to November 2021. In the same period, the IIP at the national level grew at 4% from 124.6 to 129.6.
- Tamil Nadu also serves as a strong export hub of the country. The State, with Rs.1.90 lakh crore of exports in the period April to December 2021, registered 43% growth compared to the corresponding period from April to December 2020. Tamil Nadu accounted for 8.40% of India's exports.

Prospects of Manufacturing sector of Tamilnadu:

- Tamil Nadu has been a significant contributor to India's growth story and has witnessed consistent economic growth for decades.
- The State's real GSDP has grown at a real compounded annual growth rate of nearly 8% since the previous Industrial Policy in 2014.
- The growth in the manufacturing and service sector has spurred and in turn, benefited from the rise in the standard of living of the people of Tamil Nadu.
- Tamil Nadu has a highly developed industrial

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manufacturing eco-system. It has evolved into the largest hub for the production of automobiles and auto-components, textiles, leather products, light and heavy engineering, pumps and motors, electronic software, and hardware.

- The State continues to be a national leader in exports of automobiles and automotive components, leather products, software, and ready-made garments.
- Many globally renowned companies have set up their manufacturing facilities in Tamil Nadu. The State is home to over 70 Fortune 500 companies. It also has nearly 2500 educational institutions and is home to institutes such as IIT, IIM, NIT, Anna University, TNAU, NIFT, and other public and private sector universities.
- The state's talent pool adds over a million graduates every year and has the largest annual turnout of skilled workforce in India catering to various sectors.
- The State is one of Asia's most preferred investor destinations anchoring 9% of Foreign Direct Investment in India since 2000 and has tremendous investment potential.
- The State's investment potential and strengths have won it laurels and accolades over 1 Nominal GSDP CAGR is 11.4% between 2013-14 and 2018-19 2 National Council of Applied Economic Research State Investment Potential Index 1 the years.

Issues related to Manufacturing Sector:

- **Inadequate Tech Based Infrastructure:** Technology-based infrastructure, especially for communication, transportation, and skilled manpower are important for enhancing manufacturing competitiveness.

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- Telecom communication facilities are mainly confined to big cities. Most of the State Electricity Boards are running in loss and are in deplorable condition.
- **Access to Credit for MSME:** The Micro, Small and Medium-sized enterprises (MSME) sector appears to have less favorable access to credit and higher costs for working capital compared to medium and large-scale industrial and service sectors.
- **Skilled Labour Shortages:** There is a lack of trained and skilled labor in the manufacturing sector in Tamil Nadu, which limits the growth of the sector.
- **Complex Regulations and Poor Supply Chain:** The manufacturing sector in India is subject to a number of complex regulations like license, tender, audit, which can be a burden for businesses and hinder their growth.
- Also, the sector is often plagued by poor supply chain management, which can lead to inefficiencies and increased costs.
- **Competition from Other Countries and states and Imports:** India's manufacturing sector faces intense competition from other countries, which can make it difficult for domestic businesses to compete on the global market.
- The state government announced plans to set up solar power parks across Tamil Nadu to generate 4,000 MW of solar energy with battery storage system of 2,000 MW.
- In September 2021, the UAE-based DP World announced plans to invest Rs. 2,000 crore (US\$ 271.68 million) to establish numerous projects in Tamil Nadu. These projects include a container terminal, cold storage and seafood processing zone, free trade zone with an integrated rail siding, minor port in the Eastern Coast of Tamil Nadu and inland container depots in Erode, Karur and Tiruppur.
- In September 2021, the Asian Development Bank approved a Rs. 1,095 crore (US\$ 150 million) loan to enable access to inclusive, resilient and sustainable housing for the urban poor in Tamil Nadu.
- Four industrial estates will be established across Tamil Nadu to ensure balanced growth across the state. The industrial estates will be developed by the Tamil Nadu Small Industries Development Corporation (Tansidco) at Manapparai in Tiruchirappalli district, Kaverirajapuram in Thiruvallur district, Kodur in Chengalpattu district and Sakkimangalam in Madurai district, across a total of 394 acres at a project cost of Rs. 218.22 crore (US\$ 38.20 million), and it is expected to generate 7,000 jobs.
- The state government announced that the 144-km Coimbatore metro rail project will be completed at the cost of Rs. 6,300
- The state government announced the 'Chief Minister Road Improvement Scheme' to widen roads connecting the taluk headquarters and the district headquarters in the next 10 years.
- Four airports in Tamil Nadu were featured in the central government's monetisation plan.

Some of major initiatives taken by the Government to promote Tamil Nadu

- Vande Bharat Express will make its debut in South India on the route connecting the capitals of Tamil Nadu and Karnataka (Chennai-Mysuru via Bengaluru).
- Construction of a 'Spiritual and Cultural Eco-park' on the East Coast Road, in collaboration with the Department of Hindu Religious and Charitable Endowments Department (HR and CE), at a cost of Rs. 1.5 crore (US\$ 193,362).

- Tamil Nadu exchanged 35 memorandums of understanding (MoUs) with a cumulative investment of Rs. 17,141 crore (US\$ 2.33 billion) and employment opportunities for 55,054 people. These investments are in the fields of power plants, electronics, auto components, industrial parks, IT/ITeS services, food processing, footwear, pharmaceuticals, and textiles
- The state introduced the 'Industrial Policy 2021' to achieve an annual growth rate of 15% in the manufacturing sector while attracting investments worth Rs. 10 lakh crore (US\$ 137.8 billion) and creating employment opportunities for 20 lakh people by 2025.
- government has proposed the Tamil Nadu Urban Flagship Investment Programme to support the state in developing urban and environmental infrastructure.

Conclusion:

- Since the economic liberation in 1990s, the role of the Government in engaging with industries has evolved from that of a regulator to a facilitator. This paradigm has been reinforced with various measures aimed at creating a conducive investment climate in the State through measures such as reducing and simplifying compliances, establishing investor friendly and flexible policies and improving the ease of doing business.
- These serve as a testament to the Government's role as a facilitator for industries. Tamil Nadu's economic prominence over the years is due to a mix of strong industrial development and service led growth. The State has further benefitted from the strong spill over effects of these drivers in terms of employment and per capita income. The State's focus on inclusive

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growth and development has allowed Tamil Nadu to capitalise on consumption led growth domestically.

4. Write any two of the following.

a) Mission Vatsalya Child Protection Scheme.

b) Mission Karma Yogi Scheme

c) Azadi Ka Amrit Mahotsav'

a) Mission Vatsalya Child Protection Scheme.

Origin:

- a) Prior to 2009, the Ministry of women and child development Implemented three schemes for children in need of protection,
 - The juvenile justice programme for children in need of care and protection as well as children in conflict with the law,
 - The integrated programme for street children,
 - The scheme for assistance to children's homes.
- b) In 2010, these were merged into a single plan known as the Integrated Child Protection Scheme.
- c) In 2017, it was renamed "Child Protection Services Scheme," and again in 2021-22 as Mission Vatsalya.

Working of this scheme:

- a) It's an umbrella scheme for child protection services in the country.
- b) Components under Mission Vatsalya include improve functioning of statutory bodies; strengthen service delivery structures; Up-scale institutional care and services; encourage non-institutional community-based care; emergency outreach services; training and capacity building.

Significance of the scheme;

- To secure a healthy and happy childhood for each and every child in the country.
- To ensure opportunities to enable them to discover their full potential and assist them in flourishing in all respects, in a sustained manner, foster a sensitive, supportive and synchronized ecosystem for development of children, assist States and UTs in delivering the mandate of the Juvenile Justice Act, 2015 and achieve the Sustainable Development Goals (SDGs).
- It promotes family-based non-institutional care of children in difficult circumstances based on the principle of institutionalization of children as a measure of last resort.

b) Mission Karma Yogi Scheme**Origin:**

- It was launched in 2020 with the objective of enhancing governance through Civil Service Capacity Building.
- It aims "comprehensive reform of the capacity building apparatus at individual, institutional and process levels for efficient public service delivery".
- It aims to prepare civil service officers for the future by making them more "creative, constructive, imaginative, innovative, proactive, professional, progressive, energetic, enabling, transparent and technology-enabled."

Focus

- On promoting ease of living and ease of doing business, by considerably enhancing the citizen-government interface.
- This involves creation of both functional and behavioural competencies among the civil servants.

Six Pillars :

- Policy Framework,
- Institutional Framework,
- Competency Framework,
- Digital Learning Framework (Integrated Government Online Training Karmayogi Platform (iGOT-Karmayogi),
- electronic Human Resource Management System (e-HRMS), and
- Monitoring and Evaluation Framework.

Coverage

- It will cover all civil servants (including contractual employees) across different ministries, departments, organisations and agencies of the Union Government.
- The willing state governments will also be enabled to align their capacity building plans on similar lines.

Significance

- It will improve human resource management practices among the officers.
- It will focus more on role based management. It will aim to allocate roles and jobs based on competencies of the officers.

c) Azadi Ka Amrit Mahotsav'**Origin:**

- 'Azadi Ka Amrit Mahotsav' is an initiative of the Government of India to celebrate and commemorate 75 years of independence and the glorious history of its people, culture and achievements.
- The official journey of AzadiKaAmritMahotsav commenced on 12th March 2021 which started a 75-week countdown to our 75th anniversary of independence and will end post a year on 15th August 2023.

Aim of Azadi Ka Amrit Mahotsav

- The aim of celebrating the Mahotsav is to create a vision for India in 2047. The Mahotsav is being celebrated on the basis of its five pillars: Struggle for independence, ideas of 75 years, achievements of 75 years, actions of 75 years and resolutions of 75 years.

Themes of Azadi Ka Amrit Mahotsav

- 1) **Freedom struggle:** Commemorating milestones in history, unsung heroes etc.
- 2) **Ideas@75:** Celebrating ideas and ideals that have shaped India
- 3) **Resolve@75:** Reinforcing commitments to specific goals and targets
- 4) **Action@75:** Highlighting steps being taken to implement policies and actualise commitments.
- 5) **Achievements@75:** Showcasing evolution and progress across different sectors

Significance:

- 'Azadi Ka Amrit Mahotsav' festival celebrates the rapid strides that India has taken in the past 75 years. This festival encourages us to rediscover our hidden strengths and prompts us to take sincere, synergistic action to regain our rightful place in the comity of nations.

5. Why Thamirabarani Civilization is called as the Cradle of Tamil Civilization?

In the recent news:

1. Carbon dating of organic material collected from archaeological excavations in Sivakalai, Thoothukudi district, suggests that the Thamirabarani civilization in Tamil Nadu is at least 3,200 years old.
2. Carbon dating is the process of determining the age or date of organic matter based on the relative quantities of carbon-12 and carbon-14 in the material.

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3. It is 600 years older than the samples found in Keeladi in Sivaganga district where ongoing excavation has been throwing up exciting findings.

Porunai river In Sangam literature

1. The Porunai or Thamirabarani river is mentioned several times in Sangam-era literature composed from the first to fourth centuries Common Era. The Sangam corpus is considered to be a 'treasure trove' containing crucial records of the subcontinent's ancient history.
2. The only major perennial river in Tamil Nadu, Thamirabarani has been mentioned as Porunai, Than Porunai, Porunal and Poruntham in Tamil literature right from the Sangam era.
3. Than Porunai finds a place in Tholkappiam, an ancient treatise on Tamil grammar. Than Porunai is also mentioned in the Sangam work Puranaanooru.

Significance of the Findings:

1. It could lead to evidence that there was a city civilisation (Porunai River (Thamirabarani) civilization) in south India as long back as 3,200 years ago, the later part of the Indus Valley Civilisation.
2. Also, archaeological excavations would be carried out in other States and countries in search of Tamil roots.
3. In the first phase, studies would be undertaken at the ancient port of Muziris, now known as Pattanam, in Kerala, to establish the ancientness and culture of the Cheraempire.
4. Research would be conducted at Quseir al-Qadim and PernicaAnekke in Egypt, which were once part of the Roman empire, as well as in KhorRori in Oman, to establish the Tamils' trade relations with these countries. Potsherds bearing Tamil scripts have been found in these countries.

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5. Studies would also be conducted in Southeast Asian countries, such as Indonesia, Thailand, Malaysia and Vietnam, where King Rajendra-Chola had established supremacy.
6. The three ruling houses of Tamil India, the Pandyas, Cheras, and Cholas, fought for supremacy of southern India and Sri Lanka. These dynasties promoted early literature on the Indian subcontinent and built important Hindu temples.
7. Sangam literature, which was written over a period of six centuries (3rd BCE – 3rd CE) contains references to various Chola, Chera and Pandya kings.

Why Thamirabarani Civilization is called as the Cradle of Tamil Civilization :

1. The analysis has revealed that the Porunairiver [Thamirabarani] civilization belongs to 1155 BCE which is 3,200 years ago.
2. Encouraged by this finding, the Tamil Nadu Chief Minister has announced the establishment of the Porunai Museum in Tirunelveli at a cost of Rs.15 crores.
3. This is the oldest civilization perhaps, older than the Vaigai civilization which is believed to be 2,600 years old.
4. The findings of artefacts at the excavation sites proves that the civilisation existed prior to 4th century BC
5. Archeologically, the findings are exciting as they reveal that there could have been an urban civilisation in Southern India, similar to the Indus Valley Civilisation that existed in the North, a few centuries earlier.

Efforts of Tamilnadu government and way forward:

1. Establishment of Porunai Museum in Tirunelveli at a cost of Rs.15 crore along with other archaeological excavation projects.

2. The studies would be undertaken in other states and countries to search Tamil roots.
3. Studies would begin at the ancient ports of Muziris also called Pattanam.
4. These would establish the existence of the ancient culture of the Cheraempire.
5. Researches would be conducted in Quseir al-Qadim and PernicaAnekke in Egypt, KhorRori in Oman which would help them establish Tamil Nadu's trade relations with the countries of Rome and Oman respectively.
6. Studies would also be conducted in Indonesia, Thailand, Malaysia and Vietnam, where King RajendraChola had ruled.
7. In the Tamil month of Adi (July-August), there is a festival at the temple on the hills just downstream of the Karaiyar dam across the River Thamirabarani. It is called the Adi festival at the SorimuthuAyyanar temple.

6. Answer any three of the following

- a) DNA finger Printing Technology**
 - b) Rain Harvesting and its merits**
 - c) Total Internal Reflection and its Applications**
 - d) CAR T – Cell Therapy**
- a) DNA finger Printing Technology**
- DNA Fingerprinting is method used to determine the probable identity of an individual based on the nucleotide sequences of certain regions of human DNA that are unique to individuals.
 - **Principle:** Although 99.9% of human DNA sequences are the same in every individual, enough of the DNA is different that can distinguish one person from another.
 - DNA fingerprinting uses repetitive sequences called variable number tandem repeats

(VNTRs), in particular short tandem repeats (STRs).

DNA Fingerprinting Steps

1. Collection of organic example blood, spit, buccal swab, semen, or solid tissue.
2. DNA extraction.
3. Restriction absorption or PCR intensification.
4. Agarose gel electrophoresis, slim electrophoresis or DNA sequencing.
5. Interpreting outcomes.

Applications of DNA Fingerprinting

1. It is a primary method for identifying an individual.
2. In forensic ForensicSciencelt is useful in solving crimes like murder and rape.
3. Paternity and Maternity Determination:
4. Diagnosis of Inherited Disorders
5. It is useful in determining the origin and migration of human populations and genetic diversities.
6. Used in DNA bar-coding.

b) Rain Harvesting and its merits

Rainwater Harvesting :

- Rainwater harvesting is the simple process or technology used to conserve rainwater by collecting, storing, conveying and purifying of rainwater that runs off from rooftops, parks, roads, open grounds, etc. for later use.

Why do we Harvest Rainwater?

- The rainwater harvesting system is one of the best methods practised and followed to support the conservation of water. Today, scarcity of good quality water has become a significant cause of concern. However, rainwater, which is pure and of good quality, can be used for irrigation, washing, cleaning,

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bathing, cooking and also for other livestock requirements

Advantages of Rainwater Harvesting

1. Promotes both water and energy conservation.
2. Improves the quality and quantity of groundwater.
3. Does not require a filtration system for landscape irrigation.
4. This technology is relatively simple, easy to install and operate.
5. It reduces soil erosion, stormwater runoff, flooding, and pollution of surface water with fertilizers, pesticides, metals and other sediments.
6. It is an excellent source of water for landscape irrigation with no chemicals, dissolved salts and free from all minerals.
7. Less cost. And Helps in reducing the water bill.
8. Decreases the demand for water and Reduces the need for imported water

c) Total Internal Reflection and its Applications

Definition:

- Total Internal Reflection is the property of light ray to bounce back in the same medium after it strikes the surface of rarer medium. However, in case of reflection, a part of energy is reflected, some part of light rays is scattered and rest is refracted.

The total internal reflections conditions are:

- When the light is approaching the less dense medium from the denser medium.
- If the incidence angle is larger than the critical angle.

Applications:

1. Diamond
 - Diamond is popular because of its amazing shine and its glamorous look. The shine of the diamond is due to the phenomenon of total internal reflection.
2. Mirage
 - Mirage is an optical illusion concept that is based on total internal reflection.
3. Periscope: which is used in submarine.
4. Optical fibres are used in:
 - a. Endoscopy
 - b. Optical communication

d) CAR T – Cell Therapy**What is CAR-T cell therapy?**

- CAR-T cells are a patient's own immune cells that are genetically engineered in the laboratory to fight cancer.
- CAR-T cell is a prospective therapy that has ushered in a new era of curing refractory and stubborn cancers.
- CAR T cell therapy is used as third or second-line treatment for patients of specific types of cancers of blood and lymph nodes. In India, those willing to undergo this treatment have to travel to other countries, mostly the US.
- T-cell receptor is widely used in developed nations for immunotherapy during cancer treatment.
- However, the technology was not available in India yet.

How does it work?

- The therapy targets leukaemia and lymphoma.
- Leukaemia is cancer of blood-forming tissues, including bone marrow.

- Lymphoma is a cancer of the lymphatic system, which is part of the body's germ-fighting network.
- It uses lentiviral technology.
- In gene therapy, this is a method of inserting, modifying, or deleting genes in organisms using lentivirus, a family of viruses responsible for diseases such as AIDS (acquired immunodeficiency syndrome).
- As part of the treatment, a specific type of white blood cells called T cells are changed in the lab so they can find and destroy cancer cells.
- It is also sometimes referred to as a type of cell-based gene therapy because it involves altering genes inside T cells to help them attack cancerous cells.

7. What is the issue of Joshimath? Explain the government agencies involved in Disaster Management in India.**What happened in Joshimath?**

- Joshimath is a hill station in Chamoli district of Uttarakhand. It is an important pilgrimage destination and is en route to 3 other important pilgrimage sites- Badrinath, Kedarnath and Hemkund Sahib.
- Recently, a land subsidence episode led to cracks forming in over 600 houses in the town. Similarly, the roads and fields were also damaged.
- The town's utilities, like high tension power lines, are also being affected by the sinking.
- The trees in the area, including the apple trees, have started collapsing.
- The town's residents have evacuated their houses following the incident.

Government Agencies Involved In Disaster Management In India.

1. National Disaster Management Authority (NDMA):-

- The National Disaster Management Authority, or the NDMA, is an apex body for disaster management, headed by the Prime Minister of India.
- It is responsible for the supervision, direction and control of the National Disaster Response Force (NDRF).

2. National Executive Committee (NEC):-

- The NEC is composed of high profile ministerial members from the government of India that include the Union Home Secretary as Chairperson, and the Secretaries to the Government of India (GoI) like Ministries/ Departments of Agriculture, Atomic Energy, Defence, Drinking Water Supply, Environment and Forests etc.
- The NEC prepares the National Plan for Disaster Management as per the National Policy on Disaster Management.

3. State Disaster Management Authority (SDMA):-

- The Chief Minister of the respective state is the head of the SDMA.
- The State Government has a State Executive Committee (SEC) which assists the State Disaster Management Authority (SDMA) on Disaster Management.

4. District Disaster Management Authority (DDMA):-

- The DDMA is headed by the District Collector, Deputy Commissioner or District Magistrate depending on the situation, with the elected representatives of the local authority as the Co-Chairperson.
- The DDMA ensures that the guidelines framed by the NDMA and the SDMA are followed by all the departments of the State Government

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at the District level and the local authorities in the District.

5. Local Authorities

- Local authorities would include Panchayati Raj Institutions (PRI), Municipalities, District and Cantonment 11 Institutional and Legal Arrangements Boards, and Town Planning Authorities which control and manage civic services.

8. Answer any Three of the Following

- Explain the Hyper activity of endocrine glands and related disorders.**
- Explain the various measures taken by government to eradicate the Tuberculosis.**
- Write about methods of Biodiversity Conservation**
- Write a short note on – IUCN**

a) Explain the Hyper activity of endocrine glands and related disorders.

- Endocrine disorders happen when the endocrine system does not function properly. The endocrine system is responsible for regulating body processes through the release of hormones.

Increased or decreased levels of endocrine hormone may be caused by:

- A problem with the endocrine feedback system
- Disease
- Failure of a gland to stimulate another gland to release hormones (for example, a problem with the hypothalamus can disrupt hormone production in the pituitary gland)
- A genetic disorder, such as multiple endocrine neoplasia (MEN) or congenital hypothyroidism

- Infection
- Injury to an endocrine gland
- Tumor of an endocrine gland

Hyper activity of endocrine glands and related disorders

1. Cushing's syndrome

- Cushing's syndrome happens when your body produces too much cortisol. Cortisol is a hormone that helps your body respond to stress, reduce inflammation, and regulate your body's sugar level.

2. Acromegaly

- Acromegaly occurs when your body produces too much growth hormone (GH), which regulates your physical growth. The pituitary gland is the main producer of GH.

3. Polycystic ovary syndrome

- Polycystic ovary syndrome (PCOS) occurs when a female's body produces excess androgens, or male hormones.

4. Graves' disease

- Graves' disease is an autoimmune disorder that causes your immune system to interfere with your thyroid gland. When this happens, your thyroid gland will make more thyroid hormones than usual, resulting in hyperthyroidism.

5. Gigantism (acromegaly)

- Pituitary gland produces too much growth hormone, a child's bones and body parts may grow abnormally fast. If growth hormone levels are too low, a child can stop growing in height.

6. Hyperthyroidism

- Hyperthyroidism, or overactive thyroid, occurs when your thyroid gland makes more thyroid hormones than your body needs to function

7. Hyperaldosteronism

- Hyperaldosteronism is a disease where the adrenal glands make too much aldosterone, a hormone that stimulates absorption of sodium by the kidneys and helps to regulate water and salt balance in the body.

b) Explain the various measures taken by government to eradicate the Tuberculosis.

Initiatives by the government for TB eradication

- National Strategic Plan for Tuberculosis Elimination 2017-2025
- National Tuberculosis Elimination Program (NTEP)- Centrally Sponsored Scheme
- TB HaregaDeshJeetega Campaign
- Bacillus Calmette–Guérin (BCG) vaccine included in the Indradhanush program.
- National TB Elimination Programme to meet the goal of ending the TB epidemic by 2025 the country, five years ahead of the Sustainable Development Goals (SDG) for 2030
- Two vaccines VPM (Vaccine Projekt Management) 1002 and MIP (Mycobacterium Indicus-Pranii) have been developed and are under Phase-3 clinical trial.
- Ni-kshayPoshanYojana: It provides Rs 500 support through direct benefit transfer to the patients.
- The government has also focused on utilizing technology and creating digital health IDs for TB patients under the Ayushman Bharat Digital Health Mission to ensure proper diagnostics and treatment are available.

c) Write about methods of Biodiversity Conservation

Biodiversity Conservation Methods

- Two types of methods are employed to conserve biodiversity. Following are some of

the ways through which Biodiversity can be conserved:

- In-situ Conservation
- Ex-situ Conservation

In Situ Conservation

- In Situ Conservation refers to the preservation and protection of the species in their natural habitat. It means the conservation of genetic resources in natural populations of plant or animal species. In situ conservation involves the management of biodiversity in the same area where it is found.
- In-situ conservation occurs in places like national parks, wildlife sanctuaries, and biosphere reserve.

Ex Situ Conservation

- Ex Situ Conservation means conservation of life outside their natural habitat or place of occurrence. It is the method in which part of the population or the entire endangered species is taken from its natural habitat which is threatened and breeding and maintaining of these species take place in artificial ecosystems.
- These artificial ecosystems could be zoos, nurseries, botanical gardens, etc.

d) Write a short note on – IUCN

Origin of IUCN

- Governance by a Council elected by member organizations every four years at the IUCN World Conservation Congress.
- Funded by governments, bilateral and multilateral agencies, foundations, member organisations and corporations.
- Official Observer Status at the United Nations General Assembly.

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Main areas of function

- Conserving biodiversity is central to the mission of IUCN. The main areas of function are:
 1. Science – the IUCN Red List of Threatened Species™.
 2. Action – hundreds of conservation projects all over the world.
 3. Influence – through the collective strength of more than 1,200 government and non-governmental Member organizations.

Working of IUCN work?

- The work is framed by a Global Programme, developed with and approved by IUCN member organisations every four years.
- The current programme runs from 2012 to 2016. IUCN's Global Programme is coordinated by IUCN's Secretariat and delivered in conjunction with IUCN member organisations, Commissions and IUCN's theme-based programmes.

IUCN Red List

- The IUCN Red List, compiled by the IUCN, is considered the world's most comprehensive information source about the extinction risk status of plants, animals and fungus species. It gives information about population size, range, habitat, ecology, use and/or trade, threats, and conservation actions that will help inform necessary conservation decisions.

9. Mention the achievements of CSIR in Science & Technology.

- Council of Scientific & Industrial Research (CSIR) is an autonomous body under the Ministry of Science and Technology and the largest research and development (R&D) organization in India.

CSIR Achievements**1. Inventions in Strategic Sector**

- Drishtitransmissometer – A visibility measuring system provides information to pilots on visibility for soft landing and take-off operation.
- Head-Up-Display (HUD) – It is developed for Indian Light Combat Aircraft, Tejas to aid the pilot in flying the aircraft and critical maneuvers include weapon training.
- Indigenous Gyrotron – Design and Development of Gyrotron for nuclear fusion reactor.

2. Energy and Environment sector

- Solar tree – designed to occupy minimum space to produce clean power.
- Lithium Ion Battery – India's first lithium ion battery fabrication facility based on indigenous novel materials has been established.

3. Value added Agriculture

- Samba Mahsuri Rice Variety – In collaboration with ICAR, an improved bacterial blight resistant Samba Mahsuri variety has been developed.
- Rice Cultivar (Muktashree) – A rice variety which restricts assimilation of Arsenic.
- White-fly resistant Cotton Variety – Development of transgenic cotton line which is resistant to whiteflies.

4. Health care

- JD Vaccine for Farm Animals – Vaccine developed for Johne's disease affecting sheep, goat, cow and buffalo so as to immunize them and increase milk and meat production.
- Plasma Gelsolin Diagnostic kit to diagnose pre-mature birth and sepsis related deaths.
- GOMED – Genomics and other omics technologies for Enabling Medical Decision has

been developed which provides a platform of disease genomics to solve clinical problems.

5. Food & Nutrition

- Ksheer-Scanner – A new technical invention to detect the level of milk adulteration and adulterants.
- Anti-obesity DAG oil – oil enriched with Diacylglycerol (DAG) instead of conventional triacylglycerol (TAG).

6. Waste to Wealth

- Non-toxic radiation shielding materials utilizing industrial waste like red mud (from aluminium industries) and fly ash (Thermal power plants) for application in diagnostic X-Ray rooms.

7. Aviation:

- The CSIR-National Aerospace Laboratories has designed a plane 'SARAS'.
- In 2011, successfully tested India's 1st indigenous civilian aircraft, NAL NM5 made in association with National Aerospace Laboratories and Mahindra Aerospace.
- Genome sequencing: CSIR has completed the sequencing of the Human Genome in 2009.

10. Answer any three of the following

- Examine the barriers of the use of Information Technology (IT) in India.**
- Explain the various challenges faced by administration of Local Self-Government.**
- List out the functions of State Secretariat.**

a) Examine the barriers of the use of Information Technology (IT) in India.

- The information and Communication Technology (ICT) is a part of good governance and it enhances its accessibility by bridging the

gaps in governance. It not only enhances governance efficiency but enable citizens to enjoy various services with ease.

Barriers of the use of IT in administration

1. Infrastructure scarcity

- lack of necessary infrastructure such as
- broadband connectivity,
- continuous electricity supply,
- mobile coverage to support the ICT based projects has made governance elusive rather than making them inclusive.

2. Digital illiteracy

- Literacy is almost non-existent among more than 90% of India's population.
- Resulted in an increase in the number of intermediaries who lure the people for financial gains in the name of assisting them.

3. Language Barrier:

- The ICT based platforms are often driven by English
- regional languages are still out of the ambit of ICT platforms.
- This has made governance more alien.

4. high Cost of Data:

- Government banking of JAM (Jan Dhan, Aadhaar, and Mobile) is promoting governance through mobiles.
- Cost of data in relative terms is high in India.
- A financial burden

5. Lack of technical proficiency:

- The government officials implementing such projects needs to be skilled enough to handle the technical challenges that may arise.

6. Non-inclusive nature of technology used:

- The ICT technologies are difficult for certain sections of society to understand..

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7. Poor internet connectivity:

- Rural India suffers from poor internet penetration due to lack of electricity and poor network quality.
- led to difficulties in Aadhaar Enabled Payment Services (AEPS) and last mile delivery of services.

8. Government efforts to address these factors:

- Digital literacy: Programmes like PMGDISHA
- Connectivity: BharatNet
- Digitisation of services: 'Digital India', 'Make in India' and Skill India.

Solutions

1. Creating suitable infrastructure
2. Increasing investment in human capital formation:
3. Changes in design and structure: Government websites should be made user friendly.
4. Digital literacy: Mandating digital literacy in school curriculum and co-curricular activities example is IT Club 'e-Kidz'
5. Integrating Local Languages: The government must integrate local languages into ICT platforms to ensure the ease of use by population across the country.

b) Explain the various challenges faced by administration of Local Self-Government.

- Problems and challenges face by local self government

1. Lack of Effective Devolution

- Local government is a state subject in the Constitution, and consequently, the devolution of power and authority to panchayats has been left to the discretion of states.

2. Some of the important subjects like

- Fuel and fodder

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- Non-conventional energy sources
- Rural electrification including distribution of electricity
- Non-formal education
- Small scale industries including food processing industries
- Technical training
- Vocational education have not been devolved in certain states.

3. Insufficient Grants/Funds

- Local bodies face problems of inadequate finance to carry out various activities assigned to them.
 - Transfers made through the State Finance Commissions are also meagre in most States.

4. Issue of SarpanchPati

- On the Panchayati Raj Day in 2015, the Prime Minister called for an end to 'SarpanchPati culture'.
- But it is still very much prevalent in the society, mainly due to gender biases, women illiteracy and patriarchal society.

5. Infrastructural Challenges

- No own building and they share space with schools, anganwadi centre and other places.- Some have their own building but without basic facilities like toilets, drinking water, and electricity connection.

6. Lack of Support Staff

- Severe lack of support staff and personnel in panchayats, such as secretary, junior engineers, computer operators, and data entry operators.
- This affects their functioning and delivery of services by them.

7. Lack of Convergence of Various Government Programmes

- There is a clear lack of convergence of various development programmes of the Centre and state governments.
- Different guidelines by different departments are cited as a major constraint for lack of convergence of activities.

Measures to strengthen

1. **Greater autonomy:** more autonomous in their functioning, so that they can deliver quality service.
2. **Timely elections and recruitment:** For strengthening LBs, a minimum level of staffing should be provided. Elections to LBs should not be, generally, delayed beyond six months.
3. **Encouraging public-private partnership :** Successful PPP programs should be formulated at both state and city levels to fund rural development. Role of the state should be to create an enabling environment with an aim to expand and deepen private sector investments in infrastructure.
4. **Ensuring Fiscal Federalism:** As functionality also depends on finances, fiscal autonomy accompanied by fiscal accountability can provide a long term solution to the problems faced by local bodies.
5. **Effective Auditing:** to exercise oversight of the integrity of financial information, adequacy of internal controls, compliance with the applicable laws and ethical conduct of all persons involved in local bodies. Draw the Disaster map of TamilNadu.

c) List out the functions of State Secretariat.**Functions**

- The secretariat is a policy-making body of the government and normally performs the following functions:

1. Assisting the minister in policy-making and modifying policies from time to time, as and when necessary;
2. Framing legislation and rules and regulations;
3. Budgeting and control of expenditure in respect of activities of the ministry;
4. Supervising and control over the execution of policies and programmes by the executive departments;
5. Coordination and interpretation of policies;
6. Assisting other branches of Government and maintaining contact with central and other state governments and outside agencies;
7. Assisting the minister in the discharge of his parliamentary responsibilities;
8. The secretariat acts as the spokesman of the Government.

Financial Matters

1. Scrutiny and approval of departmental budget estimates, major appropriation of accounts, surrender of funds and supplementary grants;
2. All proposals involving new items of expenditure;
3. Financial sanctions not within the competence of the head of department;
4. Sanction of expenditure from contingency fund;
5. Write-off cases beyond the powers of heads of department and audit objections regarding the officer of the heads of department.

Service Matters

1. Approval of service rules and amendment thereto;
2. Papers relating to senior appointments/promotions/transfers of deputy heads of department and above, plus, cases of disciplinary proceedings against their officers;

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3. Initial appointment of officers belonging to the state service and inflection of major punishments on them;
4. Creation of posts, their extension and continuance, re-employment, resignations, special pay and allowances and positions; not within the powers of heads of departments.

11. "Education is an instrument of social control and social change" - critically examine.

Introduction:

- The Report of the Education Commission (1964- 66)—bearing an eloquent-enough title, Education and National Development—makes the even stronger assertion that for achieving "change on a grand scale....there is one instrument, and one instrument only, that can be used – EDUCATION."

- The functions of education in the sphere of social change and control are outlined as under:

1. **Assistance in changing attitudes** : Education helps to change the attitudes of people in favor of modern ways of life and develops attitudes, which can fight prejudice, superstitions and traditional beliefs.
2. **Assistance in creating desire for change**: Education creates a desire for change in a society, which is pre-requisite for any kind of change to come.
3. **Assistance in adopting social change**: Whenever some social change occurs, it is easily adopted by some people while others find it difficult to adjust themselves to this change. It is the function of education to assist people in adopting good changes.
4. **Overcoming resistance to change**: Certain factors create resistance in the way of accepting social change. Education helps in

overcoming resistance. The importance of social change is convincingly explained to the people through the process of education. Education helps people in removing blind faith and prejudice and accepting something new.

5. **Analysis in change:** Education invests the individuals with the capacity to use his intelligence, to distinguish between the right and wrong and to establish certain ideals.
6. **Emergence of new changes:** Education initiates, guides and controls movements for social reform. The flood of social reform movements that was witnessed at the turn of the century was due to modern education.
7. **Leadership in social change:** Education in India must be able to create appropriate leadership at every level if social changes conducive to democracy are to be introduced. Able leaders can be produced only through education.
8. **National integration:** Education can prove very useful in bringing about national integration, which is the basis for unity among people, social change and ultimately the basis for strong and united country.
9. **National development:** Education is the fundamental basis of national development. National development is the all-round development of the different facets of the nation, i.e., economic, political, scientific, and social as well as of the individuals. Therefore, education is the powerful instrument of economic, political, cultural, scientific and social change.
10. **Economic prosperity:** Education is the most important factor in achieving rapid economic development and technological progress and in creating a social order founded on the value of freedom, social justice and equal

opportunity. It develops physical and human resources for all sectors of economy and ultimately brings a desired change in the society.

Alternate view on Education and social change:

- The relationship of education with social change is not a simple, unilateral one, as perhaps many would like to believe, for education is not only instrumental in bringing about social change, it is also quite interestingly instrumental in maintaining the status quo. In other words, education plays both a 'conservative' and 'radical' role, i.e., it helps both in 'maintaining' and 'changing' different aspects of the social system.
- According to Olive Banks (1968) the precise relationship of the education system to social and economic change is extremely complex and it is almost impossible to draw conclusions that are not misleading.
- The concept of education as producing or impeding social change is enormously complicated. Education, Social by the fact that the education system is a part of the society, which is itself Processes and Institutions changing.
- Consequently the real issue is that of the inter-relationship between educational institutions and other aspects of the society. Moreover, it is this inter-relationship which makes it so difficult to use the educational system to produce conscious or planned social change. The education system cannot be seen in isolation from its social context.
- The realization that educational reform is not a universal panacea should not, however, lead us to minimize the importance of knowledge about the educational institutions in society. This simply means that the relationship between education and social change is very

complex and no simple generalizations can be drawn regarding them.

Way forward

- Education is the most powerful instrument of social change. It is through education that the society can bring desirable changes and modernize itself. Education can transform society by providing opportunities and experiences through which the individual can cultivate himself for adjustment with the emerging needs and philosophy of the changing society. A sound social progress needs careful planning in every aspect of life – social, cultural, economic and political. Education must be planned in a manner, which is in keeping with the needs and aspirations of the people as a whole.

12. Write the following

- Describe the causes, consequences and remedial measures of Juvenile Delinquency and what are the recent amendments in Juvenile Delinquency Act 2015 in India.**
 - Explain in detail about identification and prevention of Dengue.**
- Describe the causes, consequences and remedial measures of Juvenile Delinquency and what are the recent amendments in Juvenile Delinquency Act 2015 in India.**

Juvenile Delinquency:

- It means violation of law by a child is called Juvenile Delinquency. Delinquency is an antisocial and criminal behaviour committed by a person who is under the age of 18.
- The term 'juvenile in conflict with the law' refers any person below the age of 18 who has come in contact with the justice system as a result of committing a crime or being suspected of committing a crime

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Causes of Juvenile Delinquency:

Juvenile delinquency is fostered by a wide range of factors which include:

- Poverty:** Poverty is one of the major reasons for juvenile delinquency. Juveniles indulge themselves in delinquent acts in order to meet and satisfy the primary wants of their life.
- Family:** It has been widely accepted that families of delinquents are characterized by discords, desertions and other problems. Such families have been pointed out as one of the main causes of delinquency.
- Neighbourhood:** The immediate environments of a child also affect the trend he will adopt in connection with his personality. Juvenile delinquents largely belong to areas of poor living conditions.
- Factors related to Mental Health:** various mental health factors contribute to juvenile delinquency. For example: Conduct disorder.
- Virtual world:** Constant exposure to aggression – verbal and physical – on television news, videos and games also contributes to increasing juvenile delinquency.
- Substance Abuse:** there is a strong relationship between substance abuse and juvenile delinquency. Substance abuse is associated with both violent and income-generating crimes by youth.
- Bad Peer Group:** Juvenile delinquency is often caused or worsened by peer pressure

International Instruments and Conventions dealing with Juvenile Justice

- UN Standard Minimum Rules for the Administration of Juvenile Justice (Beijing Rules)
- UN Guidelines for the Prevention of Juvenile Delinquency (Riyadh Guidelines)

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3. UN Rules for the Protection of Juvenile Deprived of their Liberty (Havana Conventions)
4. Guidelines for the Action on Children in Criminal Juvenile System (Vienna Guidelines)

Juvenile Justice System in India**Apprentices Act of 1850:**

- The Act provides for the binding of children, both boys and girls, between the ages of 10 to 18 as apprentices. It also dealt with children who committed petty offences

Provision in the Criminal Procedure Code:

- Under Section 399 of the Indian Criminal Procedure Code (ICPC) convicted young offender below the age of 15 could be sent to Reformatory Schools established by the State Government.
- Section 562 of the C.P.C. also permitted discharge of certain convicted offenders on probation. It also permitted their release with advice.
- Under Section 82 of the Indian Penal Code children under seven cannot be held responsible for their criminal acts.
- Section 83 of the Code relaxes this age up to 12 under some conditions.

Juvenile Justice Act, 1986:

- India was the first country to grow its system in the light of the principle enunciated in the United Nation Standard Minimum Rules for the Administration of the Juvenile Justice

Juvenile Justice (Care and Protection of Children) Act, 2000

- Act stresses on the need for care and protection to both categories of children

The Juvenile Justice (Care and Protection of Children) Amendment Act, 2006

- The JJ Act 2000 was subsequently amended and hereafter referred to as the Principal Act

- This Act forms the legal system and framework for the care, protection, treatment and rehabilitation of children of both categories

The Juvenile Justice (Care and Protection of Children) Act, 2015

- It was enacted to replace the existing Juvenile Delinquency law, the Juvenile Justice (Care and Protection of Children) Act, 2000 so that juveniles in conflict with law in the age group of 16-18 years, involved in heinous offences can be trialled as adults.

Juvenile Justice (care and Protection) Amendment Act 2021:

- Recently, Parliament passed the Juvenile Justice (care and Protection) Amendment Act 2021.
 1. The amendment provides strength to the provision of protection and adoption of children.
 2. There are many adoption cases pending before the court and to make proceedings of the court faster now the power is transferred to the district magistrate.
 3. Amendment provides that the district magistrate has the authority to issue such adoption orders.

b) Explain in detail about identification and prevention of Dengue.**Dengue:**

- Dengue is a mosquito-borne tropical disease caused by the dengue virus (Genus Flavivirus), transmitted by several species of mosquito within the genus Aedes, principally Aedes aegypti.
- This mosquito also transmits chikungunya, yellow fever and Zika infection.
- There are 4 distinct, but closely related, serotypes (separate groups within a species

of microorganisms that all share a similar characteristic) of the virus that cause dengue (DEN-1, DEN-2, DEN-3 and DEN-4).

Symptoms:

- Sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain, etc.

Diagnosis and Treatment:

- Diagnosis of dengue infection is done with a blood test.
- There is no specific medicine to treat dengue infection.

Status of Dengue:

- Incidence of dengue has grown dramatically around the world in recent decades, with a vast majority of cases under-reported, according to the World Health Organization (WHO).
- WHO estimates 39 crore dengue virus infections per year, of which 9.6 crore show symptoms.
- India registered over 1 lakh dengue cases in 2018 and over 1.5 lakh cases in 2019, according to the National Vector-Borne Disease Control Programme (NVBDCP).
- NVBDCP is the central nodal agency for prevention and control of six vector borne diseases i.e. Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya in India. It works under the Ministry of Health and Family Welfare.

Controlling Dengue Using Bacteria:

- Recently researchers from the World Mosquito Program have used mosquitoes infected with Wolbachia bacteria to successfully control dengue in Indonesia.

Method:

- The scientists infected some mosquitoes with

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Wolbachia and then released them in the city where they bred with local mosquitoes, until nearly all mosquitoes in the area were carrying Wolbachia bacteria. This is called the Population Replacement Strategy.

- At the end of 27 months, the researchers found that the incidence of dengue was 77% lower in areas where Wolbachia-infected mosquitoes had been released, as compared to areas without such deployments.

Dengue Vaccine:

- The dengue vaccine CYD-TDV or Dengvaxia was approved by the US Food & Drug Administration in 2019, the first dengue vaccine to get the regulatory nod in the US.
- Dengvaxia is basically a live, attenuated dengue virus which has to be administered in people of ages 9 to 16 who have laboratory-confirmed previous dengue infection and who live in endemic areas.

15 Marks

1. 'Solar Energy can help India to achieve its Net Zero Target' – Discuss the possibilities and challenges.

Solar Energy and India's Net-Zero Target

Introduction:

- The world is on the cusp of a Solar Revolution. Not only is solar the world's most abundant and clean energy source, with its widespread acceptance, it has become the common energy imperative to drive international climate action.
- Many countries are in line to solar acceptance, with India leading the way, giving it the scale and affordability that global climate action asks for. Solar energy is playing a key role not only in the developing world to tackle energy access and energy security, but also

in developed countries to facilitate energy transition.

- Despite technological superiority over other energy technologies, solar energy is facing an important challenge as the global photovoltaic (PV) manufacturing supply chain is concentrated in a handful of countries, which resulted in recent price surges because of the choking of existing limited supply chains.

How can Solar Energy Facilitate Development in India?

1. **Job Generation:** The Solar Sector has immense potential to create new jobs, 1 GW of Solar manufacturing facility generates approximately 4000 direct and indirect jobs.
 - In addition solar deployment, operation and maintenance can create additional recurring jobs in the sector.
2. **Environmental Development:** India's energy demands are largely fulfilled by non-renewable sources of energy.
 - The scarcity of these fossil resources stresses the need for renewable energy sources. Abundance of solar energy can fulfil India's clean energy demands.
3. **Energy Security:** India being a developing economy needs proper electricity for industrial growth and agriculture.
 - For achieving self-sufficiency and minimal cost in power generation, assured regular supply, solar energy can play a vital role.
4. **Social development:** The problem of power cuts and unavailability of electricity, especially in rural areas, leads to improper human development.
 - The use of solar energy can enable social development in even the most remote areas of India.

What are the Challenges Related to Solar Energy in India?

1. **High Dependency on Imports:** India still is largely dependent on foreign countries like China for solar modules.
 - Backward integration in the solar value chain is absent as India has no capacity for manufacturing solar wafers and polysilicon.
 - In 2021-22, India imported nearly USD 76.62 billion worth of solar cells and modules from China alone, accounting for 78.6% of India's total imports that year.
2. **Land Scarcity:** Solar projects that are ground-mounted require a vast area for installation. Per capita land availability in India is very low, and land is a scarce resource.
 - Installing solar cells near substations may have to compete with other land-based necessities for a small area of land.
3. **Losses in Cost and T&D (Transmission and Distribution):** Solar energy is also having problems with cost competitiveness and competing against other energy generation technologies.
 - The cost of T&D losses is approximately 40%, making generation through solar energy sources highly unfeasible.
4. **No Solar Waste Management Policy:** Despite ambitious solar installation targets, India does not have a policy for managing its solar waste. Solar waste consists of discarded solar panels. It is predicted to grow by 4 to 5 times within the next ten years.
5. **Acceptability Concern:** Despite the fact that solar energy production techniques have been improvised in India, it has not yet been commercialised.
 - Topographically and climatically, sun rays are

not uniformly available at any particular place throughout the year, and people (particularly farmers), have not yet been educated about its advantages and benefits.

6. **Low Cost to Benefit Ratio:** Despite significant growth in the installed solar capacity, the contribution of solar energy to the country's power generation has not grown at the same pace.
- In 2019-20, for instance, solar power contributed only 3.6% (50 billion units) of India's total power generation of 1390 BU.

What are the Related Government Schemes to Enhance Solar Energy Production in India?

1. International Solar Alliance
2. National Solar Mission
3. KisanUrja Suraksha evamUtthaanMahabhiyan (PM-KUSUM)
4. One Sun, One World, One Grid (OSOWOG)

What Should be the Way Forward?

1. **Solar Self Reliance:** India needs to cultivate a strong domestic solar energy market supporting the vision of Atmanirbhar Bharat.
 - The best way to support the development of solar PV manufacturing projects is direct support to upstream actors, for instance through Design and Production Linked Incentives.
2. **Bio Solar Cells:** India can also explore the use of bio solar cells by generating electricity from microbial photosynthetic and respiration processes.
3. **Towards Global Solar Manufacturing Hub:** Given its geographical location and abundance of resources, India is nicely positioned to become a global hub of solar manufacturing.
 - India's solar story will continue to provide

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important lessons for other developing countries that are looking to transition to clean energy.

- With 110 members and signatory countries, the India led International Solar Alliance is making efforts to bring about this change.
- Technology sharing and finance could also become important aspects of ISA in the future, allowing for meaningful cooperation between countries in the solar energy sector.

4. **Catalysing Net Zero Target:** Solar Mini Grids and community rooftop solar installations can enable the solar shift in India. Localised Solar energy is the one which could become the cornerstone of the net-zero India that we are aiming to see in 2070.

5. **Reducing T&D Loss:** India can encourage R&D activities to find more innovative solutions to cut down T&D loss by establishing research centres and funding gives some relief to solar energy players.

- In addition, India can collaborate with world-renowned universities for the upgradation of substations and T&D lines to reduce T&D losses.

2. Answer any Three of the Following

- a) NISSAR
- b) VIKRAM – S
- c) DART
- d) SARAS – 3 Telescope

a) NISAR Mission

Origin:

- NISAR means NASA-ISRO Synthetic Aperture Radar-Mission.
- It is jointly developed by the National Aeronautics and Space Administration (NASA) and the Indian Space Research Organisation under a partnership agreement signed in 2014.

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- It is expected to be launched in January 2024 from Satish Dhawan Space Centre into a near-polar orbit.

Objectives of the Mission:

- Tracking subtle changes in the Earth's surface
- Spotting warning signs of imminent volcanic eruptions
- Helping to monitor groundwater supplies and
- Tracking the rate at which ice sheets are melting.

Salient features:

- NISAR will be the first radar of its kind in space to systematically map Earth, using two different radar frequencies (L-band and S-band) to measure changes in our planet's surface less than a centimetre across
- NISAR is a dual frequency (L & S Band) Radar Imaging Satellite. It will be the first radar imaging satellite to use dual frequency.
- The satellite will operate for a minimum of three years.
- It is a Low Earth Orbit (LEO) observatory and will be launched in a Sun Synchronous Low-Earth
- NISAR will map the entire globe in 12 days.
- NISAR would provide info about a place more frequently.

Importance for India:

- **Disaster management:** ISRO will use NISAR for a variety of purposes including agricultural mapping, and monitoring of glaciers in the Himalayas, landslide-prone areas and changes in the coastline.
- **Natural Resource management:** The help of data from NISAR and science-based management and storage of freshwater and energy sources will allow the use of resources more efficiently and sustainably.

- **Controlling of Climate change:** NISAR's data can help India for better manage natural resources and hazards, as well as provide information for scientists to better understand the effects and pace of climate change.
- **India-United States cooperation:** The U.S. and India also have a deep, cooperative relationship in weather systems and applications, which rely heavily on space technologies

b) VIKRAM – S**Background:**

- The mission, codenamed Prarambh (the beginning), is the Indian private sector's first entry into the lucrative space launch market.
- It is a mission under which Vikram-S – India's first privately developed launch vehicle by Hyderabad-based Skyroot Aerospace will carry 3 customer satellites (2 Indian and 1 foreign) in a sub-orbital flight.

About Vikram-S rocket:

- It is a sub-orbital rocket, which reached outer space and then splashed into the sea.
- Has payload capacity of up to 300 kilograms.
- Vikram-S used solid fuel-ammonium perchlorate, which is not completely green fuel.
- With Vikram-2, it is planned to use liquefied natural gas (LNG), which is greener compared with traditional kerosene fuel.

Significance:**Technology-demonstration mission:**

- The Vikram-S, Kalam-80 and 3D printed parts (thrusters) will be used to test and certify technology in the Vikram series space launch vehicles.
- The company is developing three Vikram rockets that will use various solid and cryogenic fuels and have a carbon composite core structure.

More private sector missions on the way:

- Agnikul Cosmos, for example, whose semi-cryogenic Agnilet engine was recently tested at ISRO's vertical testing facility at Thumba (TERLS), Thiruvananthapuram.
- ISRO's SSLV is also expected to be manufactured and operated by private players in the near future.
- **Promoting startups:** Around 100 start-ups have registered with the ISRO and are collaborating with it in various areas of the space program.

c) DART**Double Asteroid Redirection Test (DART):****About:**

- NASA will launch its first planetary defence test mission, named the Double Asteroid Redirection Test (DART).
- The mission will be launched on a SpaceX Falcon 9 rocket.
- DART is the first technology demonstration of the kinetic impactor technique.
- If successful, this technique could be used to mitigate the threat in case an asteroid heads towards Earth in the future.

What will the DART mission do?

- The mission will test this newly developed technology by allowing a spacecraft to crash into an asteroid and change its course.
- After the spacecraft has collided with the asteroid, scientists will study its impact on the trajectory of the asteroid with a range of telescopes deployed on different regions of the planet.
- This study will help scientists understand whether the kinetic effect of a spacecraft impact could successfully deflect an asteroid on a collision course with Earth.

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- The target of the spacecraft is a small moonlet called Dimorphos (Greek for "two forms"). Dimorphos orbits a larger asteroid named Didymos (Greek for "twin").

Why was Dimorphos chosen?

- Didymos and Dimorphos do not pose any threat to Earth.
- Didymos is an eclipsing binary, which means it has a moonlet that regularly orbits the asteroid, and scientists can see it when it passes in front of the main asteroid. Due to this, Earth-based telescopes can make the most precise measurement possible.

d) SARAS – 3 Telescope**Origin:**

- SARAS 3 (Shaped Antenna measurement of the background Radio Spectrum 3) telescope is an indigenously developed radio telescope of India.
- The SARAS 3 radio telescope was invented and built by the astronomers at Raman Research Institute (RRI).
- It is the first telescope worldwide to reach the required sensitivity.
- It was deployed over Dandiganahalli Lake and Sharavati backwaters, located in Northern Karnataka, in early 2020.

Aim:

- SARAS is a niche high-risk high-gain experimental effort of RRI.
- SARAS aims to design, build and deploy in India a precision radio telescope to detect extremely faint radio wave signals from the depths of time, from our "Cosmic Dawn" when the first stars and galaxies formed in the early Universe.

Findings of the research:

- Researchers have been able to determine properties of radio luminous galaxies formed just 200 million years post the Big Bang, a period known as the Cosmic Dawn.
- These are the masses of the first generation of galaxies that are bright in radio wavelengths.
- This helps provide an insight into the properties of the earliest radio loud galaxies that are usually powered by supermassive black holes.
- SARAS 3 had improved the understanding of astrophysics of Cosmic Dawn by telling astronomers that less than 3% of the gaseous matter within early galaxies was converted into stars.
- It found that the earliest galaxies that were bright in radio emission were also strong in X-rays, which heated the cosmic gas in and around the early galaxies.
- Recently, the Indian researchers at RRI (Raman Research Institute) in a study using the SARAS 3 radio telescope, have conclusively denied a recent claim of the discovery of a radio wave signal from cosmic dawn.

3. What is the Collegium system? How does the system work? What are the criticisms against it? Discuss.**Meaning of collegium system:**

- The Collegium system in India also called "Judges- selecting- Judges", is the system by which the judges are appointed and transferred only by the judges.
- The system has evolved by means of the judgments of the Supreme Court, and not by an Act of Parliament or by a Constitutional provision.

Composition of collegium:

- The Supreme Court Collegium is headed by

the Chief Justice of India and comprises 4 other senior-most judges of the SC.

- A High Court collegium is headed by its Chief Justice and 4 other senior-most judges of that court.
- Names recommended for appointment by a High Court collegium reach the government only after approval by the CJI and the Supreme Court collegium.
- The government can return the recommendation for reconsideration by Collegium.
- If the collegium reiterates its recommendation then the government is mandated to appoint the respective person.

Constitutional Provision

- By the President under Articles 124(2) and 217 of the Constitution, Judges of the Supreme Court and High Courts are appointed.
- Consultations with such of the judges of the Supreme Court and of the High Courts as he may deem necessary, the President is required to hold.

Working of collegium system:**For appointing Chief Justice of India (CJI):**

- The President of India appoints the CJI and the other SC judges.
- The outgoing CJI recommends his successor.
- In practice, it has been strictly by seniority ever since the supersession controversy of the 1970s.

For appointing other SC Judges:

- SC judges are recommended by a Collegium consisting of the CJI and 4 senior-most judges of SC.
- The Collegium recommends the candidate to the Law Minister, who forwards it to the Prime Minister who then advises the President for the final appointment.

For appointing Chief Justice of High Courts:

- President appoints CJ of HC in consultation with CJI (consults other SC collegium members) and governor of the respective state.
- The candidate is selected from outside the respective state.

For appointing other HC judges:

- HC judges are also appointed by the President who consults the HC Collegium (CJ of HC and 4 senior-most HC judges), CJI (consults other SC collegium members), and the Governor of the respective state.

For appointing Judges of Common HC:

- Judges of common HC are appointed by the President who consults CJI (consults other SC collegium members) and Governors of respective states.

The evolution of the Collegium system – Three Judges Cases:**First Judges Case (1981):**

- It declared that the "primacy" of the Chief Justice of India (CJI)'s recommendation on judicial appointments and transfers can be refused for "cogent reasons."
- The ruling gave the Executive primacy over the Judiciary in judicial appointments for the next 12 years.

Second Judges Case (1993):

- SC introduced the Collegium system, holding that "consultation" really meant "concurrency".
- It added that it was not the CJI's individual opinion, but an institutional opinion formed in consultation with the two senior-most judges in the SC.

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- SC on President's reference expanded the Collegium to a five-member body, comprising the CJI and four of his senior-most colleagues.

National Judicial Appointments Commission (NJAC):

- The government through the 99th constitutional amendment wanted to replace the collegium with the NJAC.
- However, it was struck down by the Supreme Court in 2015 in the Fourth Judges Case.

Fourth Judges Case, 2015

- In the Fourth Judges Case, 2015, the SC upheld the primacy of the collegium by striking down the NJAC law. However, due to the widespread criticisms against the collegium, the judgement promised to consider necessary measures to improve the collegium system. For this purpose, the SC required the government to submit the Memorandum of Procedure (MoP).
- It is an agreement between the judiciary and the government which contains a set of guidelines for making appointments to the higher judiciary.
- Even though the draft MoP has been sent to the SC by the government, it is stuck between them as certain sections in it are alleged to be of taking away powers of the court to appoint judges.

Criticism Against the Collegium System

1. Lack of Transparency and Accountability.
2. Scope for nepotism.
3. Embroilment in public controversies.
4. Overlooks several talented junior judges and advocates.

Arguments in favour of collegium system:

1. The collegium system increases secrecy.
2. The collegium system makes Judiciary independent from the politics.
3. There are many cases in which the judges of the Supreme Court were transferred because of the political influences.
4. to ensure that the best available talent is brought to the Supreme Court Bench

Way Ahead

1. The controversy over recommendations of the collegium highlights the need for collective leadership and transparent decision making in the Supreme Court.
2. The "thought process" of both the government and Collegium should be modulated and the time frame needed to be fixed for both the Collegium and Ministry to complete the appointment process.
3. There should be an institutional basis for considering names from the Supreme Court Bar, rather than considering them on an ad hoc basis. It should be done as a rule and not as an exception

4. List out the various social security programmes and government policies to elevate the status of women in India.**Government of India Initiatives for Women Empowerment****A. Women empowerment through acts, policies :**

1. **The Dowry Prohibition Act, 1961:** "It intended to receiving or giving of a dowry by either party to the marriage either by parents or anyone else associated with marriage.
2. **National Plan of Action for the Girl Child (1991-2000):** This is a specially formulated action plan by the Government of India to protect and promote the Girl Child.

3. **National Commission for Women (1992):** to ensure and safeguard the rights of the women.
4. **The Protection of Women from Domestic Violence Act, 2005:** It has been enacted to criminalize instances of dowry and domestic violence.
5. **The Maternity Benefit Amendment Act 2017 for the private sector:** The maternity benefits
6. **The Women's Reservation Bill:** This is an attempt to increase women's political participation.
7. **National Policy for the Empowerment of Women (NPEW):** It aimed at creating and strengthening institutions and mechanisms/schemes for women empowerment.
8. **Gender Budgeting:** This concept was first introduced in Australia in mid 1980s & India incorporated this in its budget since 2005-06.
9. **The National Education Policy (NEP), 2020:** prioritises gender equity and envisions ensuring equitable access to quality education to all students

B. Women Empowerment Schemes of Union Government:

1. **Beti Bachao Beti Padhao Scheme:** "to ensure survival, protection and education of the girl child.
2. **One Stop Centre Scheme:** it intends to provide 24 hours immediate and emergency response to women affected by the violence, both in private and public spaces.
3. **Women Helpline Scheme:** It intends to give 24 hours immediate and emergency response to women affected by the violence, both in private and public spaces.
4. **UJJAWALA (1st April 2016):** It is a

Comprehensive Scheme for Prevention of trafficking and Rescue, Rehabilitation and Re-integration of Victims of Trafficking and Commercial Sexual Exploitation:

5. **Working Women Hostel Scheme:** grant-in-aid for construction of new/expansion of existing buildings for providing hostel facilities to working
6. **SWADHAR Greh (A Scheme for Women in Difficult Circumstances):** to help the women victims of difficult circumstances who are in need of institutional support for rehabilitation
7. **Nari Shakti Puraskar:** annual award given by Ministry of Women and Child Development (Government of India) to individual women or to institutions that work towards the cause of women empowerment".
8. **Awardees of Stree Shakti Puruskar, 2014:** The government of India instituted 5 national awards which are called 'Stree Shakti Puraskar' — a measure to recognise the achievements of individual women in the field of social development.
9. **Awardees of Rajya Mahila Samman & Zila Mahila Samman:** awards would recognise and reward selfless work done by exceptional and committed women at the community and grassroots level.
10. **Mahila Police Volunteers:** "They would act as a link between police and the community and facilitate women in distress.
11. **Mahila Shakti Kendras (MSK):** "For empowering rural women through community participation and to create an environment in which they realize their full potential.
12. **NIRBHAYA Fund:** "For projects specifically designed to improve the safety and security of women

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Tamilnadu Government Schemes For Women empowerment:

1. Moovalur Ramamirtham Ammaiyar Ninaivu Marriage Assistance Scheme
2. Dr. Dharmambal Ammaiyar Ninaivu Widow Remarriage Assistance Scheme
3. E.V.R Maniammaiyar Ninaivu Marriage Assistance Scheme for Daughter's of Poor Widows
4. Annai Teresa Ninaivu Marriage Assistance Scheme for Orphan Girls
5. Dr. Muthulakshmi Reddy Ninaivu Inter-caste Marriage Assistance Scheme
6. Sathiyavanimuthu Ammaiyar Ninaivu Free Supply of Sewing Machine Scheme
7. Government Service Home
8. Government Working Women's Hostel
9. Tamil Nadu State New Policy for Women-2021

5. "G20 Presidency is not merely a diplomatic meeting for India, it is a new responsibility and a measure of the world's trust in India" - comment.

Introduction:

- On December 1, 2022, India took over the G20 presidency from Indonesia with the theme of Vasudhaiva Kutumbakam (One Earth, One Family, and One Future). Under its presidency, India will host over 200 meetings covering more than 30 workstreams. As part of the G20 Finance Track, the first G20 Finance and Central Bank Deputies Meeting under the Indian presidency took place in Bengaluru on December 13-14, 2022. The first meeting of the Development Working Group under the G20 Sherpa Track also commenced in Mumbai on December 13, 2022.
- During India's G20 presidency, substantive deliberations across broad priority areas

would revolve around inclusive and sustainable growth; accelerating achievement of the SDGs; green development and LiFE (Lifestyle for Environment); public digital infrastructure; reforms of multilateral financial institutions; and international peace and harmony.

Challenges before the G-20 Member Countries

1. Impact of Russia's Invasion of Ukraine:

- Russia's invasion of Ukraine has not only created massive geopolitical uncertainty but also spiked global inflation.
- The associated sanctions by the West have further queered the pitch.
- Persistently high inflation — at historic highs in several countries — has eroded purchasing power across these countries, thus dragging down economic growth.

2. Impact of Rising Inflation:

- In response to high inflation, central banks across countries have raised interest rates, which, in turn, have dampened economic activity further.
- Some of the biggest major economies such as the US and the UK are set to face a recession; others, such as those in the euro area, are likely to slow down to almost a halt.

3. Slowdown of Major Economies:

- China, one of the major engines for global growth, is witnessing a sharp slowdown as it struggles with a real estate crisis.

4. Rising Geopolitical Rifts:

- The world economy is struggling with geopolitical rifts such as the tensions between the US and China, the two biggest economies in the world, or the decline in trade between the UK and the euro area in the wake of the Brexit decision.

India's G20 Priorities:

1. Green Development, Climate Finance & LiFE

- The opportunity to lead G20 comes at a time of compounding existential threat, with the COVID-19 pandemic having exposed the fragilities of our systems under the cascading impacts of climate change. In this regard, climate change is a key priority for India's presidential Presidency, with a particular focus towards not only climate finance and technology, but also ensuring just energy transitions for developing nations across the world.
- Understanding that the issue of climate change cuts across industry, society, and sectors, India offers the world LiFE (Lifestyle for Environment) - a behaviour-based movement that draws from our nation's rich, ancient sustainable traditions to nudge consumers, and in-turn markets, to adopt environmentally-conscious practices. This ties closely with India's G20 theme: 'Vasudhaiva Kutumbakam' or 'One Earth. One Family. One Future.'

2. Accelerated, Inclusive & Resilient Growth

- An accelerated, resilient and inclusive growth is a cornerstone for sustainable development. During its G20 Presidency, India aims to focus on areas that have the potential to bring structural transformation. This includes an ambition to accelerate integration of MSMEs in global trade, bring in the spirit of trade for growth, promote labour rights and secure labour welfare, address global skills gap, and build inclusive agricultural value chains and food systems etc.

3. Accelerating progress on SDGs

- India's G20 Presidency collides with the crucial midpoint of the 2030 Agenda. As such, India acknowledges the detrimental impact of

COVID-19, which changed the current decade of action into a decade of recovery. In line with this perspective, India wants to focus on recommitting G20's efforts to achieving the targets laid out in the 2030 Agenda for Sustainable Development

4. Technological Transformation & Digital Public Infrastructure

- As G20 Presidency, India can foreground its belief in a human-centric approach to technology, and facilitate greater knowledge-sharing in priority areas like digital public infrastructure, financial inclusion, and tech-enabled development in sectors ranging from agriculture to education

5. Multilateral Institutions for the 21st century

- India's G20 priority will be to continue pressing for reformed multilateralism that creates more accountable, inclusive just, equitable and representative multipolar international system that is fit for addressing the challenges in the 21st century.

6. Women-led development

- India hopes to use the G20 forum to highlight inclusive growth and development, with women empowerment and representation being at the core of India's G20 deliberations. This includes a focus on bringing women to the fore, and in leading positions, in order to boost socio-economic development and achievement of SDGs.

Way forward to India:

- India's G20 presidency comes at a difficult time when the global economic outlook for the next year remains bleak. The IMF and other international agencies have scaled back a number of G-20 country forecasts, with risks shifting to the downside.

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- In this global context of mounting financial vulnerabilities and heightening geopolitical tensions, India will have to steer discussions and drive collective action at the G20 to advance global economic stability and peace. It is not an easy task to develop international cooperation at a time when the global economy is becoming increasingly fragmented and distinct geopolitical blocs are on the horizon.
- Aside from domestic constituents and stakeholders, international eyes are also on India, as the country has always been a voice for the poor and developing world in the international fora.
- This historic role brings additional responsibilities as many non-G20 countries (particularly from the global South) look upon India to voice their concerns at the G20, whose decisions shape their economies. As the G20's poorest country, expectations from India are much higher than any other member country, as poor countries would expect India to speak on their behalf at the G20, where they have no representation at all.

6. Examine the role of media and social networking sites in spreading disinformation and destabilizing peace of the society. Suggest your ideas to prevent the spread of false information.

Introduction

- Fake news or spread of false news articles by media and social networking sites that are intentionally and verifiably false designed to manipulate people's perceptions of reality has been used to influence politics and promote advertising. But it has also become a method to stir up and intensify social conflict. First, they intensify social conflict to undermine people's faith in the democratic process and

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people's ability to work together. Second, they distract people from important issues so that these issues remain unresolved.

Dangers of fake news for peaceful society ;

1. It is misleading people, spreading false propaganda or maligning people as well as entire communities.
2. It can severely impact the social, political and economic stability of a country.
3. Fake news sparks panic raises conflicts and contentions among society as one sees in the case of the Cauvery dispute when malicious rumors and fake news led to the antagonism.
4. Communal tensions may develop as deliberately created content appeals to passions.
5. Acting upon the fake news circulated through social media, the incidents of mob lynching have increased across the country.
6. Most of the time, victims of these mob lynching are innocent citizens whose only fault was being at the wrong place at the wrong time.
7. This is a severe threat to the security as victims are mostly from minority community and perpetrator is faceless mob. Thus security agencies cannot act definitively.
8. It has the ability to create lasting hatred among various sections of society.
9. It's used to vilify the image of political rivals while impacting democratic right to choose the right candidate.
10. The extremists and fundamentalist groups are using fake news as a tool for spreading unrest in the society in Kashmir, North East, and Maoist infested areas.
11. Fake news is not confined by the physical barriers of the country.

12. It has the prospects of destabilizing the markets and causing huge losses to the country.
13. A simple fake news can make people run for their money from banks causing mass panic and causing law and order situations.

Role Of Media And Social Networking Sites In Spreading Disinformation

1. **Red-Herring:** The content moderation-driven approach to disinformation by all major social media platforms is a red herring designed to distract from the far larger problem of amplified distribution of disinformation as part of business models.
2. **Opacity of Social Media Platforms:** Social media platforms are increasingly becoming the primary ground for public discourse over which a handful of individuals have inordinate control.
 - One of the biggest hurdles in being able to curb misinformation is the lack of transparency by social media platforms.
 - Even when platforms have disclosed certain kinds of information, the data is often not presented in a manner that facilitates easy analysis.
3. **Inadequate Measures:** Various social media platforms have been unable to evolve a coherent framework to stop misinformation and have instead responded erratically to events and public pressure.
 - The absence of a uniform baseline approach, enforcement, and accountability vitiated the information ecosystem.
4. **Weaponization of False Information:** Social media platforms have adopted design choices that have led to a mainstreaming of misinformation while allowing themselves to

be weaponized by powerful vested interests for political and commercial benefit.

- The consequent free flow of disinformation, hate and targeted intimidation has led to real-world harm and degradation of democracy in India.
 - Misinformation spread through social media applications has been linked to minority hate, entrenched social polarisation, vaccine hesitancy, and real-life violence.
- 5. Digital Media Illiteracy among Children:** The National Education Policy 2020 is a missed opportunity to insert media literacy in the curriculum.
- Although 'digital literacy' is mentioned once in the document, social media literacy is entirely neglected.
 - This is a serious gap as social media is the primary source of students' literacy.
- 6. Threats due to Anonymity:** The most famous reason for anonymity is to be able to speak the truth against vindictive governments or to not let the views be tagged to the real person being spoken about, in the offline world.
- While on one hand, this is helpful for someone in sharing their views without any insecurity, it does more harm in the aspect that the user may spread false information up to any extent without being held accountable.

Measures to check on spread of fake news:

- 1. Media and Digital Literacy Programs:** The government and various organizations are promoting media and digital literacy programs to educate citizens about responsible media consumption and how to identify false information. These programs aim to equip individuals with the skills and knowledge to

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critically evaluate information and protect themselves from disinformation.

- 2. Fact-Checking Efforts:** Fact-checking efforts have been established by various organizations and media outlets to verify the accuracy of information being spread on social media and other platforms. These efforts aim to identify and counter false information before it can spread and cause harm.
- 3. Tech-Enabled Solutions:** Technology companies and start-ups are developing innovative solutions to counter false information and promote media literacy. For example, social media platforms are using machine learning algorithms to identify and remove false information and are partnering with fact-checkers to promote accurate information.
- 4. Collaboration with Stakeholders:** The government and other organizations are collaborating with stakeholders, including technology companies, media organizations, and civil society groups, to promote media literacy and prevent the spread of false information. This collaboration is aimed at creating a multi-stakeholder approach to address the issue and promoting coordinated efforts to counter disinformation.
- 5. Regulatory Measures:** The government is also exploring regulatory measures to address the spread of false information and promote media literacy. For example, some countries have introduced laws to regulate the spread of false information on social media, and the government of India has introduced guidelines for social media platforms to regulate the spread of false information.
- 6. An ombudsman Institution:** It deals with the

credibility of news sources and ensures that the facts are reported.

7. Legislation to Curb Fake News:

- a) Any future legislation to curb fake news should take the whole picture into account and not blame the media and go for knee-jerk reactions; in this age of new media anyone can create and circulate new for undisclosed benefits.
- b) Government should have mechanism for immediately issuing of notice against sites/people/agencies involved in spreading fake news.

8. **Accountability of Social Media:** Social media websites should be made accountable of such activities so that it becomes their responsibility to have better control over the spread of fake news.

Conclusion:

- Though Social media has become almost an inevitable part of our society now, we can't always depend on it. The spreading of misinformation in social media is not new. Every day we read bunches of things online on social media, which may happen to be true, often is not. Promoting media literacy and preventing the spread of false information require a multi-stakeholder approach that involves the government, media organizations, technology companies, and citizens. It is important to continue to develop and implement innovative solutions to address this issue and promote a well-informed and digitally literate society

7. Write an Essay about Menace of Drug abuse in India and actions taken by both Union and State government of Tamilnadu.

Introduction:

- Drug abuse is a global phenomenon, affecting almost every country, but its extent and characteristics differ from region to region. Illicit drug abuse not only affects the health and lives of individuals but also undermines the political, social, and cultural foundation of all countries.
- Both government of India and Tamilnadu take serious efforts as envisaged in the Article 47 of the Directive Principles of State Policy of the Constitution of India, which directs state to improve public health and endeavour to bring about prohibition of the consumption of intoxicating drinks & drugs which are injurious to health.

Severity of drug abuse problem in India:

- According to a survey by the Ministry of Social Justice and Empowerment, India has more than 70 million drug addicts.
- An AIIMS study in February 2019: found that around 5 crore Indians reported having used cannabis and opioids at the time of the survey.
- Alcohol is the most commonly abused psychoactive substance followed by cannabis, opioids (heroin, opium) and inhalers.
- It has been estimated that there are about 8.5 lakh people who inject drugs.
- As per National Crime Records Bureau's (NCRB)'s suicide data, In the year 2019, 7719 out of the total 7860 suicide victims due to drug abuse/alcohol addiction were male.

Causes of growing drug menace in India

1. **Location of the country:** India is sandwiched between the two largest Opium producing regions of the world that is the Golden triangle

(which comprises Thailand, Myanmar, Vietnam and Laos) on one side and the Golden crescent (includes Pakistan, Afghanistan and Iran) on the other.

- 2. Peer pressure and on the pretext of being stress buster:** school and college students often start using drugs under peer pressure and on the pretext of being immense exam pressure.
- 3. Poor implementation of laws:** drug trafficking across the borders, corruption in the policing system, negligence on the part of law enforcement agencies (for example use of drugs in rave parties), etc. are a few of the examples of poor implementation of laws.
- 4. Changing traditional societal values:** The processes of industrialization, urbanization and migration have led to a loosening of the traditional methods of social control rendering an individual vulnerable to the stresses and strains of modern life.
- 5. Financial problems and social neglect:** it often found that people under immense financial pressure, especially unemployed youth start consuming drugs. When an adolescent does not get adequate attention and love in the family or from friends/intimate partner, s/he often feels neglected and to cope up with this, they start using drugs.

Impacts of rampant drug abuse

- 1. On society:** Rampant drugs use among people, especially youth affect relationships with family, friends creating emotional and social problems. Drug use has also been linked with rise in the domestic abuse of women in the family.
- 2. On the national economy:** it results in the

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wastage of demographic dividends that India has as drug use harms individual's mental, physical and emotional capabilities, hence, negatively affecting the Indian economy.

- 3. On health:** drug use often results in unintentional injuries, accidents, incidents, medical problems, and death.
- 4. Internal Security:** terrorists and other extremist organizations often sell drugs to garner money for their terrorist activities, hence, harming India's national security and sovereignty.

Initiatives to Cope with Drug Menace

1. Efforts of Union government :

- 1. Narco-Coordination Centre:** The Narco-Coordination Centre (NCORD) was constituted in November, 2016 and the scheme of "Financial Assistance to States for Narcotics Control" was revived.
- 2. Seizure Information Management System (SIMS):** SIMS is a e-portal created by the Narcotics Control Bureau (NCB) to create a complete online database of drug offences and offenders.
- 3. National Drug Abuse Survey:** The government is also conducting a National Drug Abuse Survey to measure trends of drug abuse in India through the Ministry of Social Justice & Empowerment with the help of National Drug Dependence Treatment Centre of AIIMS.
- 4. Project Sunrise:** It was launched by the Ministry of Health and Family Welfare in 2016, to tackle the rising HIV prevalence in north-eastern states in India, especially among people injecting drugs.

5. **NDPS Act:** It prohibits a person from producing, possessing, selling, purchasing, transporting, storing, and/or consuming any narcotic drug or psychotropic substance.
- The NDPS Act has since been amended thrice – in 1988, 2001 and 2014.
 - The Act extends to the whole of India and it applies also to all Indian citizens outside India and to all persons on ships and aircraft registered in India.
6. **NashaMukt Bharat:** Government has also announced the launch of the 'NashaMukt Bharat', or Drug-Free India Campaign which focuses on community outreach programs.

2. Effort Of Government Of Tamilnadu

- "Drug Free Tamil Nadu" scheme:
It is recently launched programme Under which several awareness programme have been planned to eradicate narcotic substances in the State.
- Formation of new wings in police:
 - New wing of "Enforcement Bureau- Crime Investigation Department" by combining the Narcotics Intelligence Bureau and Prohibition Enforcement Wing to attain the target of "Drug Free Tamil Nadu".
 - Special Cyber Cell In The Narcotics Prevention Wing:
- Continues awareness of programme among the youth:
 - Programme of creating 30 hours of continuous awareness against drugs by volunteers of NCC and NSS followed by which the Chief Minister administered the pledge against usage and addiction of drugs.
 - More than 30 lakh school and college stu-

dents took pledge through video conference and this created new records for most number of students taking pledge at a single occasion.

- Operation Kanja Hund 1,2 and 3:
 - Tamil Nadu Police intensifies action against ganja peddlers under anti-narcotic operation.
 - The state's law enforcement agency has carried out such operations before and apprehended thousands of ganja peddlers.
 - Besides arresting such peddlers, the police had also seized their bank accounts.
 - So far three version of such operation has been carried out by police.
- Awareness day against drug abuse
 - Tamilnadu government declared that August 11 was observed as an awareness day against drug abuse and several programmes would be organised in schools and colleges across the State.

3. International Treaties and Conventions to Combat Drug Menace:

- India is signatory of the following international treaties and conventions to combat the menace of Drug Abuse:
 - United Nations (UN) Convention on Narcotic Drugs (1961)
 - UN Convention on Psychotropic Substances (1971).
 - UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)
 - UN Convention against Transnational Organized Crime (UNTOC) 2000.

Conclusion

- Drug menace is the manifestation of deep-rooted distortions in the socio-cultural, eco-

conomic and political system. Being systemic and multi-dimensional, its solution shall have to be systemic and multi-pronged.

2. It is emphasized the need of preventive, punitive and curative measures to tackle the menace.
3. There is an urgent need to understand the complexity of the problem having far-reaching social, economic and political implications.
4. There is a need to address all these factors responsible for drug menace in the region as punitive measures alone cannot uproot this menace.

8. How does e-Governance lead to better performance and efficiency in administration? Explain with the help of suitable examples

Introduction

- Electronic governance or e-governance can be defined as the usage of Information and Communication Technology (ICT) by the government to provide and facilitate government services, exchange of information, communication transactions and integration of various stand-alone systems and services. In other words, it is the use of technology to perform government activities and achieve the objectives of governance. Through e-governance, government services are made available to citizens and businesses in a convenient, efficient and transparent manner.

E governance and better performance in administration

- E-Governance is basically a move towards SMART governance implying: simple, moral, accountable, responsive and transparent governance.

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- **Simple** — implies simplification of rules and regulations of the government and avoiding complex processes with the application of ICTs and therefore, providing a user-friendly government.
- **Moral** — meaning the emergence of a new system in the administrative and political machinery with technology interventions to improve the efficiency of various government agencies.
- **Accountable** — develop effective information management systems and other performance measurement mechanisms to ensure the accountability of public service functionaries.
- **Responsive** — Speed up processes by streamlining them, hence making the system more responsive.
- **Transparent** — providing information in the public domain like websites or various portals hence making functions and processes of the government transparent.

Interactions in e-Governance, there are 4 kinds of interactions in e-governance

- **G2C (Government to Citizens)** - Interaction between the government and the citizens. This enables citizens to benefit from the efficient delivery of a large range of public services. Expands the accessibility and availability of government services and also improves the quality of services. The primary aim is to make the government citizen-friendly.
- **G2B (Government to Business)**: It enables the business community to interact with the government by using e-governance tools. The objective is to cut red-tapism which will save time and reduce operational costs. This will

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also create a more transparent business environment when dealing with the government. The G2B initiatives help in services such as licensing, procurement, permits and revenue collection.

- **G2G (Government to Government)**- Enables seamless interaction between various government entities. This kind of interaction can be between various departments and agencies within government or between two governments like the union and state governments or between state governments. The primary aim is to increase efficiency, performance and output.
- **G2E (Government to Employees)**- This kind of interaction is between the government and its employees. ICT tools help in making these interactions fast and efficient and thus increases the satisfaction levels of employees.

Effect of E-governance in Administration:

1. **Increased effectiveness and efficiency:** Improved government services in terms of accomplishing the government purpose and functioning
2. **Better services:** E-government can provide quick and timely services to stakeholders
3. **Transparency by dissemination and publication of information on the web:** This provides easy access to information and subsequently makes the system publicly accountable. Also as the web enables the free flow of information, it can be easily accessed by all without any discrimination.
4. **Accessible anytime and anywhere:** As e-government services are provided through web-enabled technology they can be accessed anytime and anywhere
5. **User-centred ICT enabled services:** The services are primarily intended for the use of citizens, businesses, and the government itself
6. **Reduced cost and time:** As the services are provided through internet they are effective in terms of time and cost
7. **Economic Development:** The deployment of ICTs reduces the transaction costs, which makes services cheaper. For example, rural areas suffer on account of lack of information regarding markets, products, agriculture, health, education, weather, etc. and if all this could be accessed online would lead to better and more opportunities and thereby prosperity in these areas.
8. **Social Development:** The access to information empowers the citizens. The informed citizenry can participate and voice their concerns, which can be accommodated in the programme/ project formulation, implementation, monitoring and service delivery. Web-enabled participation will counter the discriminatory factors affecting our societal behaviour.
9. **Reduced bureaucracy:** E-government minimizes hierarchy of authority for availing any government services
10. **Automation of Administrative Processes:** A truly e-governed system would require minimal human intervention and would rather be system driven.
11. **Enhanced communication and coordination between government organizations:** An automated services can be accessed by different organizations coordination and further communication became relative

- 12. Paper Work Reduction:** An immediate impact of automation would be on the paperwork. Paperwork is reduced to a greater extent with communication being enabled via electronic route and storage and retrieval of information in the electronic form. All this has led to the emergence of 'less paper office'.
- 13. Quality of Services:** ICT helps governments to deliver services to citizens with greater accountability responsiveness and sensitivity. Quality of services improves, as now the people are able to, get services efficiently and instantaneously.
- 14. Elimination of Hierarchy:** ICT has reduced procedural delays caused by hierarchical processes in the organisation. Through Intranet and LAN, it has become possible to send information and data across various levels in the organisation at the same time.
- 15. Change in Administrative Culture:** Bureaucratic structures have been plagued by characteristics aptly described by Victor Thompson as 'bureau-pathology'. From the days of New Public Administration, efforts have been made to find ways to deal with the pathological or dysfunctional aspects of art.
- 16. Strategic Information System:** Changing organisational environment and increasing competitiveness have put pressures on the performance of the functionaries. Information regarding all aspects needs to be made available to the management at every point to make routine as well as strategic decisions.

Initiatives under e-governance

- A National Task Force on Information Technology and Software Development was set-up in 1998.

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- The Ministry of Information Technology was created at the Centre in 1999. A 12-point agenda was listed for e-Governance for implementation in all the central ministries and departments.
- The National e-Governance Plan (NeGP), provides a holistic view of e-Governance initiatives across the country.
- **Bhoomi Project (Karnataka):** Online Delivery of Land Records- Bhoomi is a self-sustainable e-Governance project for the computerized delivery of 20 million rural land records to 6.7 million farmers of Karnataka.
- **e-Seva (Andhra Pradesh)-** Designed to provide 'Government to Citizen' and 'e-Business to Citizen' services. All the services are delivered online to consumers /citizens by connecting them to the respective government departments and providing online information at the point of service delivery.
- **e-Courts-** Launched by the Department of Justice, Ministry of Law and Justice. The Mission Mode Project (MMP) aims at utilizing technology for improved provisioning of judicial services to citizens.

Conclusion

- With the penetration of technology in the hands of a layman, e-governance aims to empower citizens with service delivery without time delay and in effective manner. India is emerging as the country with highest monthly internet usage. The more steps need to be taken to increase the penetration of services in effective and efficient manner.