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MONTHLY MAINSTORMING

SEPTEMBER 2019

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SEPTEMBER 2019

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G.S PAPER I

1. HISTORY

The relevance Ramakrishna mission not only existed during British India but also during present times. Discuss

KEY POINTS

Ramakrishna Mission during British Period

Need

- During his travels all over India, Swami Vivekananda was deeply moved to see the appalling poverty and backwardness of the masses.
- He immediately understood that the real cause of India's downfall was the neglect of the masses that had lost faith in their capacity to improve their lot as a result of centuries of oppression.

Relevance

- It was necessary to infuse into their minds, confidence and faith in themselves. For this they needed an inspiring message that can energise them into lead a life full of activity for their own betterment.
- The masses needed two kinds of knowledge: secular knowledge to improve their economic condition and spiritual knowledge to infuse in them faith in themselves and strengthen their moral sense. Education was the answer that Swamiji found.
- To carry out his plans for the spread of education and for the uplift of the poor masses, and also of women, an efficient organization of dedicated people was needed.
- It was for this purpose Swamiji founded the Ramakrishna Mission a few years later. Thus began the social engineering with a touch of spiritualism. In response to the enthusiastic welcome that he received everywhere, he delivered a series of lectures in different parts of India, which created a great stir all over the country.

Relevance of the mission during present times

- The Ramakrishna Mission in Mangaluru may have invented the most ingenious method to address an attitudinal problem embedded in the collective Indian psyche.
- During a cleanliness drive that the Mission organised, the volunteers identified individuals who dumped their household trash at 300 different locations in Mangaluru.
- The volunteers followed garbage-throwers and returned the waste at their doorstep. People threw their house trash despite the Mangaluru City Corporation's door-to-door waste collection policy. But when the volunteers started returning their trash, 90 per cent people stopped throwing it in the open.

2. GEOGRAPHY

Why the climate action must focus more on combating desertification in India? Substantiate

KEY POINTS

Reasons

- India is hosting the 14th Conference of the Parties (CoP14) of the United Nations Convention to Combat Desertification (UNCCD).
- Annually, some 12 million hectare (ha) of productive land across the world—for perspective, this is 80 times the size of Delhi—is getting degraded.
- Desertification is one of the most visible manifestations of anthropogenic climate change effects. Desertification is a double whammy—other climate change effects, like prolonged droughts, increasing incidence of downpour, floods and landslides, are making it worse at a time when the demand for all that land provides (food, shelter, fuel, fodder and natural resources) is increasing.
- India mirrors the world's misery—as per an atlas developed by Isro's Space Application Centre in 2018, some 96.40 million ha, or about 30% of the country's total area, is undergoing degradation.
- Of the 228.3 million ha of drylands in the country, 82.64 ha is undergoing desertification—that translates to roughly a quarter of the country's area.
- A 2018 Teri report estimates that India's land degradation costs the economy \$48.8 billion annually, or nearly 2.5% of the GDP in FY15, and more than 15% of the GVA from agriculture, forestry and fishery.
- The drying up of the Himalayan springs—3 million of India's 5 million springs originate in these ranges—is also a major contributor to desertification in the Gangetic plains.
- Climate change effects, such as rising mercury/extreme dryness, massive and frequent flooding, extreme weather events, among others—thanks to a range of human activity, from deforestation to mindless resource extraction—are to blame.
- CoP14, spoke of the need for a global water action agenda to check desertification while setting a national goal of controlling degradation/desertification of 26 million hectares by 2030.
- In Rajasthan, the Central Arid Zone Research Institute has implemented measures that involve the plantation of specific brushwood/grass in a specific pattern, and other vegetation to reduce wind erosion, and stepped up water management efforts in the driest districts.
- The plantation efforts, CAZRI data shows, has brought down soil loss by 76%. The cost of battling desertification worldwide is estimated at \$450 billion annually.

What is meant by Atlantic Meridional Overturning Current (AMOC)? Discuss the role Indian Ocean in maintaining the stability of AMOC and its influence on global climate.

KEY POINTS

- In the Atlantic operates a large system of ocean currents, circulating the waters between the north and the south. Called Atlantic Meridional Overturning Current, or AMOC, it ensures the oceans are continually mixed, and heat and energy are distributed around Earth.
- Now a new study suggests that AMOC is getting help from the Indian Ocean. Warming as a result of climate change, the Indian Ocean is causing a series of cascading effects that is providing AMOC a jump start.

Working of AMOC

- As warm water flows northwards in the Atlantic, it cools, while evaporation increases its salt content. Low temperature and a high salt content raise the density of the water, causing it to sink deep into the ocean.
- The cold, dense water deep below slowly spreads southward. Eventually, it gets pulled back to the surface and warms again, and the circulation is complete.

Influence on global climate

- This continual mixing of the oceans, and distribution of heat and energy around the planet, contribute to global climate.
- AMOC had weakened substantially 17,000 to 15,000 years ago, and it had global impacts.
- This can result in the reduction of meltwater flux in the northern North Atlantic-associated with the remarkable sea-ice retreat causes more reduction of meltwater.

Indian Ocean's role

- Using observed data and computer modelling, they have plotted out what effect such shifts might have over time. In this study, they looked at warming in the Indian Ocean.
- As the Indian Ocean warms faster and faster, it generates additional precipitation. This draws more air from other parts of the world to the Indian Ocean, including the Atlantic.
- With so much precipitation in the Indian Ocean, there will be less precipitation in the Atlantic Ocean. Less precipitation will lead to higher salinity in the waters of the tropical portion of the Atlantic because there won't be as much rainwater to dilute it.
- This saltier water in the Atlantic, as it comes north via AMOC, will get cold much quicker than usual and sink faster.
- This would act as a jump start for AMOC, intensifying the circulation.

G.S PAPER II

3. HEALTH

What are the core principles of Alma-Ata declaration? Do you think the country is really transforming itself to attain the desired objectives of the declaration? Critically evaluate

KEY POINTS

Core principles of Alma-Ata declaration

- Health is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal.
- Primary health care is essential health care based on scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation.
- The people have the right and duty to participate individually and collectively in the planning and implementation of their health care.

Health care attaining desired objectives

Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)

- It aims to cover over 10 crore poor and vulnerable families (approx. 50 crore beneficiaries) providing coverage up to Rs. 5 lakh per family per year for secondary and tertiary hospitalization.
- This scheme covers poor and vulnerable families based on deprivation and occupational criteria as per SECC (Socio-economic caste census) data.
- “LaQshya” (Labour room Quality improvement Initiative) to improve quality of care in labour room and maternity operation theatres in public health facilities.

The Integrated Child Development Services (ICDS) Scheme was launched with the objectives

- to improve the nutritional and health status of children in the age-group 0-6 years;
- to lay the foundation for proper psychological, physical and social development of the child;
- to reduce the incidence of mortality, morbidity, malnutrition and school dropout;

Criticisms

- Lack of medical manpower and its dynamics also warrants attention. It took 37 years after the landmark Bhore Committee report (1946), which highlighted the need for a ‘social physician’ as a key player in India’s health system.
- Finally recognise family medicine as a separate speciality and another decade and a half to actuate a postgraduate residency in family medicine.
- The highest professional body representing doctors in this country, the Medical Council of India (MCI), itself came to be dominated by specialists with no representation from primary care.
- The current opposition to training mid-level providers under the NMC Act 2019 is another example of how the present power structure is inimical to primary health care.
- Medical assistants, and non-allopathic practitioners with shorter courses and training regime have time and again been written-off as ‘half-baked quacks’ who would only endanger the health of the rural masses.

The basic strategy to combat malnutrition would have to be initiated afresh with greater stress on scientific approaches. Elaborate

KEY POINTS

- The incidence of malnourishment remains worryingly high despite perceptible economic progress, decrease in poverty, surplus foodgrains, and an array of government programmes to facilitate access to food.
- Going by the Food and Nutrition Security Analysis Report 2019 of the United Nations (UN) World Food Programme (based on 2015-16 data), 38.4 per cent of the Indian population suffers from chronic malnutrition.
- While about 35.7 per cent children are underweight, 58.5 per cent of them are anaemic. Worse still, malnutrition is prevalent among both the poor and the rich, though in the latter case it is manifested in the form of obesity, nutritional imbalance, and attendant health disorders.
- Clearly, the ongoing food security initiatives, including the right-to-food law and the Mahatma Gandhi National Rural Employment Guarantee Act, have not dented undernourishment and disguised hunger to the desired extent, though these have warded off starvation deaths, which were quite common in the past.

- Retarded growth, low body weight, inadequate brain development, and poor immunity among children are the prominent signs of improper, imbalanced and insufficient nourishment. Low productivity of labour in India is also attributed partly to undernourishment.
- A National Nutrition Mission was launched in last year by the government. It aimed at a 2-3 per cent annual reduction in the rate of low birth weight, stunted growth, undernourishment and anaemia among children, adolescent girls and women.
- The Mission, subsequently upgraded and renamed PoshanAbhiyaan (nutrition drive), was given even a more daunting task of creating a “*KuposhanMukt Bharat*” (malnutrition-free India) by 2022.

Need for scientific approach

- Most of the nutrition-oriented schemes are focused narrowly on achieving just one or couple of objectives at a time rather than striking simultaneously at all the facets of this menace.
- Besides, there is no coordination between them to tap their synergies. The funds earmarked for them often remain underutilised. Moreover, many of them, including the mid-day meal in schools and supplementary feeding in Anganwadis, tend to concentrate just on providing food with least regard to its nutritional aspect.

For scientific approach

- One way to do this is to diversify the supply of foods under the government schemes by including more nutritious items, such as millets (hailed commonly as nutri-cereals), eggs, milk, soybean products, and other nutrient-dense fresh and processed foods.
- Methods are now known to fortify mass-consumed foods, such as rice, wheat, salt, edible oils, and milk, with essential minerals and vitamins like iron, iodine, zinc, and vitamin A and D.
- This can help stave off health disorders resulting from deficiencies of these nutrients. Technologies are also available to evolve bio-fortified crops having an inherent capability to synthesise the desired vitamins or minerals.
- The Golden Rice having a higher Vitamin A content is a typical case in point. It is helping to alleviate blindness in many countries. India, too, can take advantage of such technologies to eradicate malnutrition.

4. GOVERNMENT POLICIES

Government has made some recent changes in ethanol production, and are expected to resolve the existing problems in sugarcane industry. Discuss

KEY POINTS

- Recently, the government approved an increase in the price of ethanol to be procured by public sector oil marketing companies (OMCs) from sugar mills for blending with petrol for the year 2019-20.
- The Cabinet Committee on Economic Affairs (CCEA) also allowed conversion of old sugar into ethanol, which again is expected to help mills deal with the current overproduction in the sweetener and make timely payments to farmers for the cane delivered by them.
- Given the surplus sugar production in the country, it has allowed mills to produce ethanol from ‘B’ heavy molasses and directly from sugarcane juice.
- CCEA approved even use of sugar and sugar syrup for production of ethanol; mills can simply add these to the molasses mother liquor for further fermentation.

- But the real impetus has come from mills getting higher rates for ethanol manufactured from the ‘B’ heavy and sugarcane juice routes.
- There is a huge incentive to produce ethanol today. This has been additionally facilitated by the government mandating 10% blending of petrol with ethanol.
- If mills are able to divert more of cane juice for ethanol, it would mean producing less sugar. Since the country is producing too much sugar and is importing oil, the ethanol-blending programme is beneficial both for mills and for the country’s balance of payments.
- Ten-per-cent blending requires 330 crore-odd litres of ethanol, which can now be produced through the ‘B’-heavy molasses and sugarcane juice routes as well.

Recent legal reforms and judgments transforms India gradually developing into an arbitration-friendly regime. Elaborate

KEY POINTS

Legal Reforms

- The passing of the Arbitration and Conciliation (Amendment) Bill, 2019, on and that of the New Delhi International Arbitration Centre Bill, 2019 are the first few firm steps in the long walk ahead of us in terms of making India an international arbitration hub.
- Complemented by the NITI Aayog’s ‘National Initiative towards Strengthening Arbitration and Enforcement in India’ and the central government’s ‘Make in India’ initiative, these reforms will help the country reach newer heights not only in terms of arbitration, but also in various allied business fields.
- This newly passed Bill puts India, with the help of the to-be-established Arbitration Council of India (ACI), at a parallel footing with big arbitration hubs such as the London Court of International Arbitration (LCIA), the Singapore International Arbitration Centre (SIAC) and the ICC International Centre for ADR (ICC).
- The Supreme Court, for international commercial arbitrations, and the respective High Courts, for domestic arbitrations, may now designate arbitral institutions for appointment of arbitrators.

Cases

- In the Kandla Export vs Oci Export Corporation case, the Supreme Court took a pro-arbitration stand and refused to intervene by holding that the appeals with respect of arbitration proceedings are exclusively governed by the Arbitration Act and thereby the appeal provision of the Commercial Courts Act, 2015, cannot be used to circumvent the provisions of the Arbitration Act if no appeal is provided under the provisions of the Arbitration Act.
- In the Ravi Arya vs Palmview Investments Overseas case, the Bombay High Court ruled that when remedies are available to the party seeking an injunction under the Arbitration and Conciliation Act, 1996, an anti-arbitration injunction cannot be obtained to circumvent provisions of the Act.
- These judgments affirm the fact that Indian courts have taken a pro-arbitration stance with a strict adherence to the principle of non-interference with arbitral awards, and have also taken proactive steps to ensure their speedy execution, hence augmenting India’s credentials as an arbitration-friendly regime that includes minimal intervention by national courts and speedy resolution of arbitration proceedings.

The potential for arbitrations in India has also changed with the reform in third-party funding, making the country all set to present itself and compete with other international jurisdictions as an international arbitration hub.

For achieving the government's aim of doubling farmers' incomes, India needs to protect the interest of its small, marginal and landless dairy farmers. Explain

KEY POINTS

- At the 8th RCEP meeting of the intersessional ministerial held in Beijing New Zealand demands greater market access for its dairy products, apples, kiwis and wine into India, India has been demanding greater access of professionals into New Zealand and easing the market barrier that it imposes.

Constraints

- The Indian dairy industry says that import concessions on dairy products from milk-surplus member countries like New Zealand and Australia will have an adverse impact on India's dairy sector.

Growth of dairy industry

- By 1998, India overtook the US to become the largest milk producer in the world. India continues to be the largest milk producer with a production of 176 million metric tonnes in 2018-19.
- According to International Farm Comparison Network (IFCN, 2018), this value is expected to double and will account for more than 30% of the world's milk production by 2033.

Dairy industry's potential

- As per a NITI Aayog Working Group report, the total demand of milk during 2033-34 would be around 292 million metric tonnes, as against supply of around 330 million metric tonnes.
- Of India's 100-million-plus dairy farmers, more than 70 million hold 2-3 milch animals per head. RCEP negotiations are crucial to the survival of India's dairy sector as milk production in India is smallholder-centric.
- An Indian dairy producer in the organised sector receives more than 60% share of the consumer rupee as against 30% for a New Zealand-based producer.
- Today, India is self-sufficient in milk, having surplus trade balance in dairy. Moreover, the production would grow, leaving substantial market surplus in the future.
- According to industry estimates, the market share of Indian dairy products comprising of skimmed milk powder, butter and cheese is estimated to be around 0.5 million metric tonnes.
- If we allow imports, say, from New Zealand, across all value-added dairy products equivalent to 5% of their total exports in each of the above product category, it will be around 0.133 million metric tonnes.
- This will have an untimely impact on the organised dairy sector, which has been improving slowly but steadily over the past few years. Indian farmers are getting better returns compared to other dairy-developed countries like New Zealand, Australia and the US.
- The Make in India policy is the most amenable to its dairy producers and processor companies who mostly use locally-available resources.
- Most of the resources are available as India continues to have a healthy growth in food grains and other crop production.

Though the Government policies towards public sector banks addressed some legacy issues, several fundamental issues remain that need to be tackled. Discuss

KEY POINTS

- With nationalisation in 1969, banking became a bureaucratic system that collected deposits, administered interest rates and disbursed loans as per plan priorities.
- The public sector banks were also used for managing fiscal stress, which, to an extent, was shifted to public sector banks and hidden there.

Legacy issues

- The reforms of 1991 saw a new paradigm in the banking system regarding ownership, regulation and competition. The banking industry was opened to privately-owned banks enhancing competition, while public sector banks were expected to compete among themselves.
- Reduction in the shareholding of the government in public sector banks, however, did not dilute government's role in governance since they are not governed by Company Law, but by relevant nationalisation legislation.
- Prudential regulation and supervision by RBI was gradually oriented to global best practices.
- The dual control of public sector banks, namely by the government and RBI was not ended, while consolidation of public sector banks took place in an adhoc manner.
- The policy of public-private partnership in infrastructure etc ushered in the new millennium led to liberal use of public sector banks by government to intensify crony capitalism.

Fundamental issues

- In the post 2008 crisis era, all banks in India temporarily benefited from excess or prolonged stimulus and regulatory forbearance.
- The farm loan waivers on a national scale also had an impact on the fiscal-public sector bank interface.
- In 2016, it became evident that public sector banks had greater share of the problems, warranting the injection of additional capital by government. In contrast, private sector banks performed better as per standard indicators.
- The political consensus continues to be in favour of continuing with public ownership and control of existing public sector banks. The owner, regulator, the management and the large borrowers blame one another for the sorry state of these banks, while the tax payer pays for the losses.
- The share of public sector banking is shrinking. That is why there is budgetary support in 2019.

Core issues to be addressed

- There is a need to have a board of directors that commands the trust and respect of the professionals.
- Objective decision on the dual control over Public Sector Banks exercised by the government and the RBI.
- The future of the banks and their professionals be determined by their performance rather than the uniformly applied government policies towards public sector banks.

India needs to reorient its policy framework towards textile sector for boosting its competitiveness in global markets. Explain

KEY POINTS

Textile Sector

- Held back by lower competitiveness (owing to higher production costs) and higher import duties in the destination markets (compared to its peers), Indian garment exports have been steadily losing ground to countries such as Bangladesh and Vietnam.
- In addition, with the ongoing trade tensions of China with the US, and the rising costs of labour, the manufacturing activity is poised to exit China, in the process vacating more space for countries such as India, Bangladesh and Vietnam.

Constraints in the sector

- Globally, the demand is moving towards man-made fibres, rather than cotton. In India, cotton still dominates, indicating that the country is not moving in conformity with the global demand, and this is hampering the country's export potential.
- The current inverted duty structure on man-made fibres is hampering its adoption.
- In addition, technology adoption is another constraint. For example, according to the data made available to the NITI Aayog, India currently has 23.7 lakh shuttle looms, as compared to 6.5 lakh in China.
- However, in China, there are 6.3 lakh shuttle-less looms, compared to 1.4 lakh in India (shuttle-less looms are up to six times more productive than shuttle looms). This indicates the huge productivity gap India must bridge to become competitive in the global markets.
- The final constraint is that of scale. According to some estimates, approximately 95% of the fabric produced in India is produced in small-scale industries.
- Combined with power cross-subsidisation and high real rates of interest, an inherent cost disadvantage has developed in the Indian garment products, making them more expensive.

For Global Competitiveness

- The man-made fibre industry can be made more competitive through removing the inverted duty structure (where inputs are taxed at a higher rate than the final product). This will free up substantial working capital and reduce the cost of raw materials.
- Similarly, with the World Trade Organisation (WTO) norms on the horizon, the Merchandise Export from India Scheme (MEIS) may need to be revamped so as to be WTO-compliant.
- In addition, a time-bound plan for a transition from shuttle looms to shuttle-less looms must be urgently drawn up to boost productivity in the country.
- Enabling size and scale is perhaps the most important intervention that can be made. Both Vietnam and Bangladesh offer common facilities such as effluent treatment plants, water treatment plants, steady water supply, and low-cost power in their textile industrial parks.
- Recently, a committee chaired by Baba Kalyani on revitalising SEZs submitted its report to the government. Central to the findings of this report is that SEZs need to be reoriented into Employment and Economic Enclaves (3Es). Investments should be directed towards activities that boost economic activity and job creation, and not just exports.

- Concerted policy efforts are needed to realise the job-creation potential of the textiles sector. Healthy job creation in this sector also provides an avenue for pulling labour out of the agricultural sector, thereby raising the incomes of both who remain in agriculture and those who exit.
- The central government should work with state governments with identified comparative advantage to develop plug-and-play facilities. These facilities should provide common resources, ease of doing business in its true sense, along with a well-developed link infrastructure.

Do you think that Make in India policy has been successful in producing indigenous assets in military aviation sector? Critically discuss

KEY POINTS

In the coming decade, the Indian armed forces are planning to acquire more than 500 aircraft and helicopters in different categories to sustain and bolster their capabilities.

The combat aircraft will replace the fleet of MiG 21 and MiG 27 that are being phased out and the current number is pegged at 114 in addition to 83 Light Combat Aircraft (LCA).

Make in India policy not fruitful

- According to Ministry of Defence, India has spent over \$48 billion on importing major air warfare assets in the last two decades.
- Project Saras has made no headway and India has always relied on imports, except for very light transport aircraft Do 228 being manufactured under licence.
- India, with the fourth largest military aviation assets in the world, retains the dubious distinction of operating the largest fleet of foreign-designed aircraft.
- Although the end-user cannot be held accountable for the failure of the industry to grow, a pragmatic hand-holding approach is necessary owing to very high R&D costs and low probability of success.
- In the last 50 years, India has led the pack of arms importers in the world with a 7% share—almost double the second-placed Saudi Arabia.

Make in India policy contribution

- The Defence Acquisition Council (DAC) under Ministry of Defence, cleared defence deals worth more than INR 82,000 crore under ‘Buy and Department of Industrial Policy and Promotion Make (Indian)’ and ‘Buy Indian’ category.
- The deals include the procurement of Light Combat Aircraft (LCA), T-90 Tanks, Mini-Unmanned Aerial Vehicles (UAV) & light combat helicopters.
- The narrative in the helicopter fleet seems most encouraging with the success of the Advanced Light Helicopters. But here again, with just 12 helicopters produced last year, soon another imported helicopter may be inducted against a requirement of over 300.
- The preferential treatment given to Defence Public Sector Undertakings (DPSUs) inexcise duty/custom duty has been discontinued to create a level playing field.
- As per the revised policy, all Indian industries(public and private) are subjected to the same kind of excise and custom duty levies.

For better military aviation

- Successful models like BrahMos need replication for technology infusion and project implementation.
- Policy decisions to infuse funds and revitalize and redefine the role and accountability of DRDO, Defence Public Sector Undertakings and Ordnance Factory Board need to be taken now so that results start showing by 2022-2024.
- Expansion of scale with greater visibility can assist the industry to cut production costs and lead to economies of scale. Alongside, providing a level-playing field to the private sector and hand-holding for initial orders will assist in creating an ecosystem that will pay long-term dividend.

How the urban data can be used to create revenue sources that would help Indian cities become self-sustainable? Explain

KEY POINTS

- This explosion of data holds vast potential to boost innovation, productivity, and ultimately economic growth and social value.
- Governments, especially city administrations, need to explore options to monetize the data, both structured and raw, so as to create revenue sources that would help cities become self-sustainable.
- It is especially important for India, as cities are trying to optimize their urban service delivery by implementing integrated Pan City Smart Solutions under the Smart Cities Mission by generating huge volumes of data.
- Depending on the size of a city, its population and infrastructure, the opportunities for data monetization could be enormous. Data monetizing platforms (DMPs) can be created at city levels in India by integrating various data sources.
- These DMPs can act as data markets for the exchange of processed and analysed data. For example, any data related to the environment or traffic may be useful for a research scholar, who could avail of it via the platform by paying a nominal amount.
- Similarly, geo-spatial data related to utilities will be useful to planners and developers, who would be willing to pay a premium for such data.
- Analytic firms and app developers can use raw city data to create applications and analytics, which can be used for business development.
- A state-of-the-art data warehouse and archive with online analytical processing capabilities could be created. This integrated repository of data will encompass data generated by various departments.
- Keeping in view the competence required in terms of analytics and marketing, it is essential to have a Data Monetizing Agency (DMA), to be selected through a competitive bidding process.
- Data prices should depend on the category of information. Some of the open-source data can be free of cost, whereas registered-source data can be charged.
- The charges should keep in view the overall business model of the DMA and its sustainability over a pre-defined period. The government may have the right to collect a share of revenues, depending on the profitability of the system.
- It is important to address privacy issues related to data before setting up DMPs. India is moving towards having a comprehensive data protection law.

- City governments, as data fiduciaries, should lay down appropriate policies and safeguards to ensure that the rights of citizens (as data principals) are protected with regard to personal data, in consonance with existing laws.
- The proposed Personal Data Protection Bill provides for some exemptions for the processing of personal data for research and statistical purposes. Data anonymization must be done prior to offering data on city platforms.

The objective of the policy and regulatory framework should be to facilitate access to anonymized and aggregated non-personal urban data and information in both human- and machine-readable forms. The policy should pay particular attention to the overall readiness for such.

Indian Government's population policy needs to focus on the basis of wide variety of data analysis to avoid china type crisis. Elaborate

KEY POINTS

- China's one child policy was huge loss in terms of human resources for the country but the actual motive of controlling the population was not effectively met.
- To avert these kind of set backs India needs to focus on data while making population policy
- The World Population Prospects 2019 has reported that India's total fertility rate (TFR) has declined from 5.9 in early Sixties to 2.4 to 2010-15.
- As per the National Family Health Survey (NFHS), India's TFR declined from 2.7 in 2005-6 to 2.2 in 2015-16.
- When the TFR touches 2.1, which is called replacement fertility level, we can say that the population is getting stabilised, subject to the momentum factor.

Need to focus on data while making policy

- The increased acceptance of contraceptives is just one of the factors for the decline of TFR. Data from various NFHS rounds do not show a significant increase in contraceptive practices by married women.
- The percentage of women using modern contraceptive methods too has not increased much. This was the case between 2005-6 and 2015-16 as well — the period recorded a high decline in TFR.
- The main factor which led to this significant decline is the rise in the age of marriage.
- The decline in TFR would lead to reduction in the dependency rate. A reduction in the share of children and an increase in the adult population are important for achieving a high rate of economic growth since it will lead to an increase in the percentage of the working population.
- India is expected to grow at least 6.5-7.5 per cent per annum in the coming three decades, as per the predictions of the Asian Development Bank. This record growth can be achieved largely due to a demographic dividend and other structural factors, the present economic crisis notwithstanding.
- The scenario of high income growth in India is critically dependent on the increase in the work participation rate and skill development. In order to achieve the predicted growth rate, an increase in the percentage of women participating in the workforce is a must.
- The high level of poverty and illiteracy among the Muslim community explains its larger "desired number of children", than other communities. The situation, however, is changing dramatically.
- The labour market scenario is changing fast with modern ideas seeping into the communities, bringing about attitudinal changes. More Muslim girls/women are entering schools and colleges as well as the labour market.

Should the Government of India reorganize Public Distribution system to meet the intentions of one nation, one ration card? Comment

KEY POINTS

- The Economic Survey 2017 estimated that over nine million Indians change their state every year.
- For them, the “One Nation, One Ration Card” is a gamechanger because it makes their rations “portable”, allowing them to pick up food grains from any ration shop in the country.
- It also benefits non-migrants by allowing them to transact at better-performing shops locally. This local “choice effect” is extremely popular in Andhra Pradesh, which has introduced such portability within the state since October 2015.
- A study by researchers at the Indian School of Business (ISB) found that over 25 per cent of Public Distribution System (PDS) beneficiaries in the state now use portability.
- However, we must approach this bold vision with utmost caution because PDS is a crucial lifeline for many of the 800 million Indians it reaches.
- It provides them with at least 5 kg of grain per person per month, equivalent to 25 per cent of an individual’s recommended calorie intake.
- In 2017, it was reported that a 11-year old girl from Jharkhand died when her family was unable to access rations in the aftermath of large-scale revisions in the beneficiary list.
- Such tragedies must be prevented at all costs and we should therefore be cautious while restructuring the program.

Restructuring PDS

- Fundamental processes related to the PDS need to be redesigned to empower every individual. The State of Aadhaar Survey 2017-18 found that nearly 6.5 per cent of PDS beneficiaries in Rajasthan were denied ration because the shopowner claimed to be out of food grain.
- A beneficiary has no mechanism to question whether the shop owner is telling the truth or diverting rations. Portability and biometrics will not solve this problem completely.
- The central government should use this opportunity to make PDS more user-centric. It should track denial of service on a real-time basis through mobile-based surveys.
- The operational backbone of the PDS needs to be restructured to promote portability. States should be brought together on a national platform that is based on the same technical standards and can therefore “speak” to each other (what technologists call “interoperability”), so that portability works seamlessly across states.
- While leveraging the power of Aadhaar for PDS, the government should actively address privacy and exclusion risks that the use of Aadhaar and a centralised PDS platform can lead to.
- To prevent denial of service, the government should ensure availability of non-biometric means of authentication (such as OTP or PIN), as well as manual overrides.

If the government is serious about Make in India for Active pharmaceutical ingredients and boosting R&D spending by pharmaceutical companies, it needs to stay away from price controls as a policy measure. Discuss

KEY POINTS

- The government is mulling over excluding medicines made from locally manufactured active pharmaceutical ingredient (API)—the key raw material for the production of a drug—from price control.
- The move is aimed at pushing manufacture of APIs in India to reduce import dependence. The move, if implemented and to the desired effect, would be a boost for Indian pharma.
- In Financial Year 2019, Indian pharma companies imported bulk drugs and intermediates worth \$2.4 million from China.
- The irony is the government had all along known how price control was affecting domestic manufacture.
- Indeed, Indian manufacturers had gotten more and more export focused, with their offerings in India accounting for an increasingly smaller portion of their revenues over the years.
- In the Draft Pharmaceuticals Policy 2017, the government had noted that PSUs were doing a good job of producing raw materials/intermediates in the 1950s-60s.
- Also accepted that import dependence had grown because of its price controls so the Drug Price (Display & Control) Order 1966 put 18 APIs (raw materials) under price control from 1996.
- Therefore imported APIs and Intermediates started becoming hugely lucrative as a price cap on drugs forced the manufacturers to obtain the cheapest raw material with the basic minimum efficacy/quality.
- Yet, it had called for price controls to stay citing high out-of-pocket costs for drugs. The government, in the draft policy, also emphasised on the fact that pharma companies were more focused on generic formulations than R&D.
- It should have long realised that, unless price controls go summarily and companies' profits grow, investment in R&D will remain thin.
- To keep medicines affordable for the masses, it must subsidise through bulk purchases for its Jan Aushadhi and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) outlets.

5. INDIAN POLITY

Does Indian Parliament need an independent Parliament Budget Office for good quality analysis on economic or fiscal matters? Analyse

KEY POINTS

What is important for our electorate and the representatives we vote for is that they have an independent, non-partisan source for these hard facts and evidence.

Need for Parliament Budget Office

- This is particularly important for our Parliament, which controls where and how money flows into our government and our country. This body needs to be appointed not based on political allegiance or expediency, but on its expertise in budgetary, fiscal and economic matters.
- This body exists in many countries around the world, going by many names but most commonly as Parliamentary Budget Offices (PBOs).

- These bodies help shape the debate and discourse around the state of the nation's finances and the fiscal implications of significant proposals. The work done by PBOs naturally ends up in the public sphere.
- When they do, they help drive smarter, more focused debate in the media and with our electorate.
- What distinguishes India's democracy, besides its diversity of views and opinions wrought by its size, is its ability to evolve and remain dynamic.
- Take an example: the Rafale deal with Dassault Aviation. Part of the controversy resulted from uncertainty regarding the true lifecycle costs of the aircraft bought.
- In 2011, the Canadian PBO released a cost estimate for Canada's purchase of F-35 jets. This estimate far exceeded the one presented by the Department of National Defence.
- Defence costing, typically the purview of the Defence Ministry, was a completely new area of analysis, information and research that parliamentarians could now access to hold the government to account.
- Besides costing policies and programmes, PBOs provide significant and sometimes the sole source of information on fiscal and economic projections.
- However, without the existence of another data point, generated by an independent, non-partisan office, it is difficult for parliamentarians to ensure that these projections and estimates continue to be reliable enough for them to make decisions on.
- A PBO, or a similar independent fiscal institution, will not solve all these problems but is a relatively cost-efficient way to arrive at a solution.
- The amount of information parliamentarians need to scrutinise in Budget documents has exponentially increased and a PBO would assist parliamentarians in this process of scrutiny.

In the context of judicial independence, the functioning of collegium system needs to be transformed to restore the credibility in Indian Judiciary. Critically analyse.

KEY POINTS

Positives of collegium

- It assures, that judiciary should separate from executive as mentioned in directive principles of state policy under article 50.
- It is made up of senior judges, so good quality judges are appointed.
- It prohibits political interference because of judicial independence mentioned in the constitution.
- It gives importance to experience and administrative vision.
- Nominated judges will work without favour of government.
- Quality is maintained in selection.
- Recently modifying its recommendation concerning transfer of a judge the Supreme Court Collegium appears to have succumbed to pressure from the Union government.
- The government did not act on the recommendation for months, raising the suspicion that it was blocking his appointment. Under the current procedure, the Collegium may reconsider a recommendation, but the government is bound to implement a decision that is reiterated.

Criticisms of the collegium

- It is quite acceptable if the Collegium and the government resolve their differences through consultation and correspondence, but the final decision should not be opaque, mysterious and indicative of executive pressure.
- It is common to charge the Collegium with lack of transparency, but in this case, the government is equally guilty.
- The time may have come for the two sides to come up with fresh clauses in the existing procedure of appointments under which the Collegium's decisions are implemented within a time-frame, and the government's objections and reservations, if any, are made public.
- Memorandum of Understanding has to be signed between Union government and Judiciary for better transparency in collegium system.
- Only then can the credibility deficit be bridged. But, even so, what is indisputable is that the Collegium system is deeply flawed, and is in need of urgent remedy.

6. GOVERNANCE

Explain the major reasons for sub-standard policing in the country and suggest remedial measures to overcome it

KEY POINTS

- The latest report on the Status of Policing in India, produced jointly by Common Cause and the Centre for the Study of Developing Societies.
- To start with, there are simply not enough people to do the job a surprising fact, given widespread unemployment. Vacancies abound at all ranks, but those in senior ranks are higher than those in the constabulary.
- India may be a global IT champion but police stations, on average, have just six computers and states like Bihar and Assam less than one.
- Computers may yet be considered relatively sophisticated tools; some 240 stations did not even have vehicles. The police work, on average, 14 hours a day and one in five women in the police said she lacked a separate toilet.
- The inadequacy of physical infrastructure is matched by an abject failure on the part of the state to widen the social ambit of the police force or, indeed, treat the institution in the kind of arm's-length relationship that fosters effective policing.
- The study also found that the Indian police system bias against women working in the police, with about one in four male personnel demonstrating high bias against their female colleagues.
- The frequent transfers of senior police persons who do not conform to a political leader's demands have entered the realm of popular culture.
- Poor infrastructure and inadequate training and social sensitisation have all served to accentuate the foundational defects of India's police force.

Measures for better policing

- Boosting infrastructure and capacity of the police forces includes increase in the number of police personnel in the country, improvement in recruitment, training and service conditions so there is an urgent requirement to recruit more people.

- Experts suggest that after 18 years of service, some CAPFs could switch to the Armed Police of the state. This is one way of filling vacancies. Another reform is using technology to supplement manpower.
- Urban areas in India have been witnessing rapid growth. As a result challenges for the police in cities have also become immense.
- In this situation, as recommended by the National Police Commission in the 6th report, a system of Police Commissionerate should be introduced in cities with population of five lakhs and above and places where special conditions like speedy urbanisation, industrialisation, etc. demand it.
- For efficient policing, there is a need for the police force to restrict themselves to core functions.
- 5th Report of the Second Administrative Reforms Commission further suggests that functions like serving court's summons, antecedents and addresses verification for passport applications or job verifications etc. can be outsourced to private agents or government departments. These measures will help in reducing the workload of the police.

Discuss the structural problems that affect the functioning of local governments and suggest remedial measures for effective democratic decentralisation.

KEY POINTS

Structural Problems

- The constraint lies in the design of funding streams that transfer money to local governments. First, the volume of money set apart for them is inadequate to meet their basic requirements.
- There is little investment in enabling and strengthening local governments to raise their own taxes and user charges.
- Local governments do not have the staff to perform even basic tasks. Furthermore, as most staff are hired by higher level departments and placed with local governments on deputation, they do not feel responsible to the latter; they function as part of a vertically integrated departmental system.
- In 2005, when the Gujarat government postponed the Ahmedabad corporation elections, a Supreme Court constitutional bench held that under no circumstances can such postponements be allowed.
- Yet, in Tamil Nadu, panchayat elections have not been held for over two years now, resulting in the State losing finance commission grants from the Union government.

Downside of centralisation

- Indeed, the current Union government has further centralised service delivery by using technology, and panchayats are nothing more than front offices for several Union government programmes.
- Union programme design for cities is inimical to decentralisation. The 'Smart City' programme does not devolve its funds to the municipalities;
- Article 243 ZD not given enough attention by union government while implementing smart city programme.
- States have been forced to constitute 'special purpose vehicles' to ring fence these grants lest they are tainted by mixing them up with municipality budgets. There cannot be a greater travesty of devolution.

On corruption

- Higher officers posted at the behest of Members of Legislative Assemblies, often on payment of bribes, extract bribes from local governments for plan clearances, approving estimates and payments.

- Thus, a market chain of corruption operates, involving a partnership between elected representatives and officials at all levels.

Remedial measures

- Gram sabhas and wards committees in urban areas have to be revitalised. The constitutional definition of a gram sabha is that it is an association of voters.
- Consultations with the gramasabha could be organised through smaller discussions where everybody can really participate. Even new systems of Short Message Services, or social media groups could be used for facilitating discussions between members of a gramasabha.
- Local governments must be enabled to hold State departments accountable and to provide quality, corruption free service to them, through service-level agreements.
- Local governments are reluctant to collect property taxes and user charges fully. They are happy to implement top-down programmes because they know that if they collect taxes, their voters will never forgive them for misusing their funds. The connection between tax payment and higher accountability is well known.

In the context of 7th Schedule of the Indian Constitution, there is a requirement for the rationalisation of spending of government schemes for optimal resource allocation. Analyse

KEY POINTS

- The difference between a Central Sector and a Centrally Sponsored Scheme is that for the former, all expenditure is borne by the Union government.
- For a CSS, part of the expenditure is borne by the Union government. States bear the rest. The state contribution is contingent on the type of state — north east and Himalayan states versus the others.

Need for Rationalisation of spending

- CSS basket has an expiry date of March 31, 2020 which is co-terminus with recommendations of the 14th Finance Commission. Therefore, from April 1, 2020, we will have a new CSS basket.
- Indeed, we need to plan for that CSS basket in advance, since the 2020-21 Union and state budgets will need to factor in the new CSS basket.
- Revamping a CS is the Union government's prerogative, while revamping a CSS, without consultation with states, is not.
- The Chaturvedi report suggested that nine flagship schemes (MGNREGA, IAY, SSA, NRHM, and so on) should remain as CSSs, while another six schemes (JNNURM, RKVY and so on) should become CSs. Fifteen is a large enough number of schemes for public expenditure.
- The sub-group of chief ministers talked about implementation and divided schemes into core and optional ones. However, the core of the recommendation was the following: "The Sub-Group recommends that the existing CSS should be restructured and their number should be reduced to a maximum of 30 schemes. All these schemes would be 'Umbrella Schemes', with every scheme having a large number of components with a uniform funding pattern."
- Hanumanthaiah Committee also referred to the difficulties of the states in finding resources to meet their share of expenditure on the schemes sponsored by the central government and suggested consultation with the states before directives in this regard were issued.
- So there is urgent need to rationalise spending on government schemes for optimal allocation of resources.

Transparency followed by accountability is the core aspect in transforming the governance system of our country. Examine

KEY POINTS

Maintaining the transparency and accountability is the core aspect of governance because it allows the government for its smooth functioning and aids citizens to cooperate with government effectively, thereby leading to healthy functioning of government.

Government's efforts towards Transparency and accountability

MyGov

- It is a citizen engagement platform founded by the Government of India to promote the active participation of Indian citizens in their country's governance and development.
- It is aimed at creating a common platform for Indian citizens to "crowdsource governance ideas from citizens". Its users discuss and contribute to various government projects and plans.

eBiz

- The focus of eBiz is to improve the business environment in the country by enabling fast and efficient access to Government-to-Business (G2B) services through an online portal. This will help in reducing unnecessary delays in various regulatory processes required to start and run businesses.

Citizen's Charter

- It is a document which represents a systematic effort to focus on the commitment of the Organisation towards its Citizens in respects of Standard of Services, Information, Choice and Consultation, Non-discrimination and Accessibility, Grievance Redress, Courtesy and Value for Money.

Jan Soochna Portal

- It is launched by the government of **Rajasthan** is a remarkable achievement in furtherance of the right to information (RTI) especially Section 4 of the RTI Act that deals with proactive disclosure of information.
- Transparency must be accompanied by accountability, and that is where the JSP has great value and significance since it places the power of making the State government accountable to everyone who accesses the information made available on the portal.

National Judicial Data Grid

- This gave information about all pending cases across the country. Some time back, a year-wise breakup of pending cases was given on the grid and it was found that more than 70,000 cases were pending for over 30 years.

Key challenges

- There are huge challenges with regard to maintenance issues and ensuring that there is no let-up in the availability of information also there is asymmetry of information.
- This often leads to exploitation of people by bureaucracy and leads to corruption at various levels.
- Digital divide among citizens is a huge problem along with illiteracy, this has to be addressed properly.
- Citizens charter are not often presented in simple language and leads to a lot of confusion among people.
- In case of e-governance training has to be provided properly to government officials about installation of software and its working procedure.

Remedial measures

- Increase in availability of information to the citizens via Common service centres and kiosks.
- Narrowing the digital dividend through effective implementation of Digital India Campaign.
- Grievance redressal system in every department should be established and whistle blowers need to be protected with the help of Central Vigilance Commission.

7. INTERNATIONAL RELATIONS

Despite challenges, India's diplomacy towards Europe indicates its break from the past and shows willingness for a more productive engagement. Justify

KEY POINTS

Challenges to India's Foreign Policy

- To address the current contradictions in Eurasia, France is eager to work with India in developing new coalitions to stabilise the Indo-Pacific.
- France, a resident power in the Indo-Pacific, is eager to work with India, Japan, Australia and other nations to prevent the littoral from becoming a hostage to the vagaries of US-China relations.
- The problem of US-China tensions over trade that is affecting all major nations, including India. Delhi has good reasons to support the initiative by France, Japan and others to save the global trading system through much needed reforms to make it work for all nations.
- In the past, India's preference was to forge coalitions like the G-77 that have long ceased to be effective. Working with Europe and Japan, however, might lend greater weight and credence to India's trade diplomacy.
- India has a strong interest in joining the so-called "Alliance for Multilateralism" a German initiative backed by France that calls for modernising international institutions.
- India, which is already working with France in promoting the International Solar Alliance, may find the Alliance for Multilateralism useful in reinforcing its new international initiatives such as cooperation on humanitarian assistance and disaster relief.

Willingness' towards Europe

- To re-engage actively towards timely relaunching negotiations for a comprehensive and mutually beneficial India-EU Broad Based Trade and Investment Agreement (BTIA).
- PASSEX between the EU Naval Force and the Indian Navy off the coast of Somalia, as a successful example of naval cooperation.
- The EU looks forward to India's possible participation in escorting World Food Program vessels in the near future.
- India-EU also underlined the importance of freedom of navigation, overflight and peaceful resolution of disputes, in accordance with the universally recognised principles of International Law, notably the United Nations Convention on the Law of the Sea (UNCLOS) 1982.
- The EU welcomed India's subscription to The Hague Code of Conduct against Ballistic Missile Proliferation (HCoC) and noted India's intensified engagement with the Nuclear Suppliers' Group (NSG).

India's approach to Russian Far eastern region is a smart move in strengthening its influence in Indo-Pacific region. Explain

KEY POINTS

- The forum aims at bringing investment and development to what is known as the Russian Far East, a region extending between Lake Baikal - world's largest freshwater lake and deepest lake, and the Pacific Ocean.
- Realising its geostrategic significance, India opened a consulate in Vladivostok in 1992. India was the first country to have a resident consulate in Vladivostok then.
- This Vladivostok-Chennai sea link is somewhat a counter to China's Maritime Silk Route (MSR) plan as part of One Belt One Road project. China's ambitious MSR plan is about establishing and hence directly controlling Asia-Africa sea route.
- Vladivostok-Chennai shipping link is likely to pass through or very close to the South China Sea, which China has turned into an international geostrategic hotspot by claiming exclusive control over the resource rich maritime zone in the Pacific Ocean. Vietnam, the Philippines, Malaysia, Brunei and Taiwan have counter claims over the sea.
- There is an alternate possibility as well that Vladivostok-Chennai link would become an extension of existing India-Japan Pacific to Indian Ocean Corridor, which China considers as a challenge to its maritime OBOR plan in the region.
- The announcement of \$1 billion line of credit is not really an investment by India but it still offers it to have a foothold in the Russian Far East.
- Seen from geostrategic lens, this gives India another vantage point to counter Chinese game of encircling India through what is called the String of Pearls policy.
- Russian Far East is a resource rich region in a hostile climate. It is rich in oil, natural gas, timber, gold and diamond among other resources. India requires all of them.
- A busy Vladivostok-Chennai link means India strengthening its checks and balances equation with China.
- Current engagement of India with this region is limited to select pockets such as Irkutsk where the MiG and Sukhoi fighter planes are built and in Sakhalin where ONGC Videsh has invested over \$ 6 billion in oil and gas and exploration.

Considering recent circumstances, there is a window of opportunity for the international community and India to reset their approach to peace and development process in Afghanistan. Analyse

KEY POINTS

The suspension of U.S.-Taliban talks has opened the space for the holding of Afghan presidential elections presents an opportunity for the international community and India.

Utilizing the opportunity

- The Afghan election authorities and security forces should be supported in every way to conduct free and fair elections as an exercise of Afghan sovereignty. Concerns about misuse of government apparatus should be addressed. The anti-social elements will try to disrupt it.

- Its outcome could provide a stronger foundation for talks with the terrorists group that are Afghan-led, Afghan-owned and Afghan-controlled, and not as dictated from Washington, Islamabad, Doha or Moscow. India should be able to support such talks.
- After freeing from elections, the Afghan government should take the lead in forging a national consensus behind talks with the terrorist group that it has failed to do until now.
- The international community should support this process and focus its efforts on the terrorist group to demonstrate their ‘nationalism’ by distancing themselves from Pakistan’s Inter-Services Intelligence, halting attacks against fellow Afghans, agreeing to a ceasefire, and negotiating directly with a representative Afghan delegation.
- India should utilize Heart of Asia Conference – Istanbul process as a platform should establish a peace process in Afghanistan.

The Saudi Aramco incident is a wake-up call to Indian policymakers to work on a cohesive national policy on energy security. Analyse

KEY POINTS

The 20 per cent spike in the benchmark Brent crude oil price in a intra-day move is perhaps a knee-jerk reaction to the drone strikes that knocked out half of Saudi Aramco’s production capacity and interrupted global crude oil supplies to the tune of 5.7 million barrels per day.

Wake-up call to Indian Policy makers

- With the market carrying comfortable inventories and the US immediately releasing some of its strategic petroleum reserves, immediate supply shocks to consumers from this 5 per cent dent to global output appear unlikely.
- But with the Saudi drone strike exposing the vulnerability of global oil infrastructure to unexpected security threats and setting off a fresh bout of tensions in West Asia, political risk premium is set to make a strong comeback into the oil pricing dynamic.
- India may thus have to brace for a renewed flare-up in oil that bloats its import bill, roils the rupee and re-triggers inflation in an already shaky economy.
- Despite pious statements from successive governments about building strategic petroleum reserves, (Indian Strategic Petroleum Reserves Programme) doubling down on domestic exploration and diversifying the import basket, India has taken is not sufficient towards energy security in the past decade.
- But this remains woefully inadequate against the global norm of 60-90 days’ reserves. Despite much lip service on attracting foreign investments, domestic oil and gas exploration remains a non-starter, with local crude output on a downward curve in recent years.
- Efforts to diversify India’s oil import basket have also witnessed setbacks lately, with the government giving in to US political pressure to reduce imports from traditionally economical sources such as Iran and Venezuela.

Alternative energy resources

- Focus on implementing FAME scheme, (Faster Adoption and Manufacture of (Hybrid and) Electric Vehicles) will reduce oil imports substantially.
- Bio-fuel policy 2018 needs to be given a boost to utilize ethanol as a fuel for vehicles.

Signing of Free Trade Agreements in Asia have not served well for Indian Industry and policy makers across India. Critically Examine

KEY POINTS

- India signed a series of Free Trade Agreements (FTA) in Asia that came into force in the 2000s.
- The success of an FTA should be judged against its objective of enhancing trade. If the proportion (and not just absolute level) of both imports and exports between the countries concerned has grown, then an FTA is successful for both parties.

FTAs ineffective for India

- Overall, our FTAs have had little effect on our trade flows: Accounting for 16.3 per cent of our trade in 2000 and 17.9 per cent of it today.
- India is not the only country signing FTAs. ASEAN, South Korea and Japan have FTAs with many more countries than we do, including China.
- This enables close supply-chains to develop and prosper for example, in electronics, where components and sub-assemblies wander around Asia with tiny bits of value-addition at each step in each country.
- Tariffs are not the only barriers to trade. Non-tariff barrier (NTB) from France required electronic consumer products to be imported only through the port of Lyon which would have been fine, except that Lyon is not a port.
- Our pharmaceutical firms report great difficulty in getting approvals to sell in Indonesia, South Korea and Japan in spite of specific inclusion in the FTA.
- The free trade agreement (FTAs) do provide opportunities for export of agricultural (including processed) products of interest for macro, small and medium enterprises (MSMEs).

FTAs positives

- Though, India's trade deficit as a percentage of total trade has increased, India's total trade has also increased
- FTAs that were considered, India's engagement with ASEAN was the biggest in terms of the size of total trade (\$81 billion) and the size of trade deficit (\$12.9 billion).
- While India's exports to all FTA partners primarily comprise non-raw material goods, its imports are mainly goods like heavy machinery and iron and steel products, which are not finished products but something that add to the production capacity of India.
- In the case of ASEAN, non-consumer goods account for 84 per cent of total imports. This can be an ideal export and import structure of India vis-a-vis FTA partners.

GS PAPER-III

8. INDIAN ECONOMY

RBI needs to undertake systemic level interventions to curb the frequent banking frauds and improve risk management of Public Sector Banks. Examine.

KEY POINTS

- Rather than attempt piecemeal fixes to individual cases, the RBI must undertake system-level interventions to improve risk management at PSBs

- But large-value frauds cropping up across different business verticals raise concerns that the RBI's regulatory fixes after the PNB scam do not address the root causes of bank fraud, which lie in governance and risk control lapses at PSBs.

Problem areas

- Banks' lending practices that fraudsters have exploited, lending decisions by bank employees at all levels from the branch-level executive to the sanctioning authority in top management ignoring obvious flaws in collateral or project contours suggest that many frauds are perpetrated with the active collusion of bank employees.
- The tenures and poor compensation structures of top managers at PSBs actively involves negligence. This can only be fixed through pay structures that directly link their compensation to bank asset quality.
- Long delays between the occurrence of a fraud and its detection (the average time taken by banks to report large frauds was 55 months) point to yawning gaps in banks' post-disbursement monitoring of funds.
- The window-dressing and misappropriation that accompany large loan frauds cannot be perpetrated without the co-operation of statutory auditors or valuers who vet projects. It is therefore critical that they are brought to book when bank frauds surface.

Remedial measures

- Here, whistle-blower protection laws may help bank insiders red-flag frauds at an early stage.
- Transparent auditing by firms and its monitoring by RBI.
- The PSBs also need to step up technology-related investments to effectively monitor end-use of their loans. Information sharing through a common credit registry, as mooted by the RBI, can help.
- The Centre, if it is keen to ward off future bad loan build-ups at PSBs, needs to empower the RBI to effectively supervise PSBs and to allow an independent entity like the Bank Boards Bureau to fill key management positions.

The recent liquidity crisis provides an opportunity to focus on structural reforms agenda and to enable sustainable growth of the Non-Banking Financial Companies. Justify

KEY POINTS

- NBFCs have graduated from being a significant class of lender to being a dominant supplier of credit to several segments. In FY19, NBFCs contributed 40% of new loan accounts in retail, consumer, housing, and small business segments.
- The government's budget announcement to provide first loss guarantee for portfolio purchases from NBFCs, and a slew of measures from RBI to ease flow of credit to NBFCs are strong signals that the state is backing this pillar of Indian lending.
- Further, changes in the RBI Act, giving it more powers to better supervise and regulate NBFCs, clearly signal the intent for a more hands-on role of the regulator towards developing the NBFC sector.

Focusing on reforms

- Regulation, innovation in funding instruments, bank finance reforms, strengthening market discipline, and reinforcing systemic support for NBFCs.
- The regulatory requirement for liquidity and capital should, ideally, be cognisant of this structural diversity, and avoid one-size-fits-all regulations, particularly with respect to liquidity and capital requirement. Else, it may potentially distort market structure, affecting credit availability in certain segments.

- Apart from banks and mutual funds, we need to enhance funding from insurance and pension funds. Such long-term investors are risk-averse by design.
- Banks need to treat NBFC as partner, not borrower. Banks' lending model of treating NBFCs as any other institution borrower needs to change. Co-lending may be the preferred model of the future.
- The co-lending scheme, introduced by RBI, allows NBFCs to lend to customers jointly with banks. NBFCs acquire the customer, lend a part of the loan to them, and provide first loss guarantee to the banks to lend the remaining part.
- Banks and NBFCs can operate more closely. Technology integration of their systems will ensure much faster decision-making, and seamless customer experience while controlling the risk.
- As the present crisis has shown, liquidity, more often than insolvency, takes an NBFC down. NBFCs require a lender of last resort. We need one institution that has the capability to undertake repo of securities, backed by NBFC loan portfolio, that can be resorted to at a time of need, to raise funds for short periods.

India's rising solar targets necessitate creation of an indigenous, globally-competitive manufacturing industry for solar panels. Elucidate

KEY POINTS

India's Solar target

The country has set an ambitious target of installing 175 GW of renewable energy capacity by the year 2022, which includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro-power.

Need for manufacturing solar panels

- India has taken full advantage of the global decline in the price of solar panels, as the Chinese reduced their costs of manufacturing dramatically.
- However, as the rupee depreciates, or the Chinese raise prices, the tariff, discovered through bidding, would also rise.
- So the time has also come to target manufacturing of solar panels, with full value addition in India.

Possible ways

- One viable approach could be to invite bids for the supply of 1,500 MW of solar panels, made fully in India, every year, for four to five years, starting from 2021.
- Land, with environmental clearance, at a reasonable price, along with commitment of direct, cheap power supply in a dedicated manufacturing Special Economic Zone (SEZ) should be on offer.
- The SEZ should have the special dispensation of having sales to the Indian market being considered as fulfilling its export obligation.
- The issue of imposition of safeguard duties can be examined after there is manufacturing in India, with a competitive industry structure.
- Rooftop solar and decentralised solar power generation in rural areas in the KW range is yet to gather momentum. Having no transmission costs, this is far more economical.
- The ideal way for achieving a breakthrough would be to go in for an attractive feed-in tariff regime, with the approval of the State Regulatory Commissions.

- The distribution company should indicate the points at which it would be willing to buy solar power on a first-come, first-served basis, as well as the maximum it can take at the receiving point, along with the power purchase agreement.
- The receiving points could be the consumer connection point, with a reversible meter, the distribution transformer, or the sub-station. This should cover urban as well as rural areas.
- A farmer could buy solar panels, investing on his own. Alternatively, an aggregator could put up the solar panels on the land or rooftops provided by the farmer.
- India has around six lakh villages. Getting up to 1MW capacity installed through a feed-in tariff in a village should not be difficult. Thus, creation of 6 lakh MW capacity of solar power through private investment in the next five to seven years appears feasible.
- India could take global leadership in solar energy, as well as in moving towards carbon-free electricity.

What is meant by Initial Public Offering (IPO)? Discuss the problems of raising money by an entity in public markets and evaluate what implications an IPO could have on the start-up funding.

KEY POINTS

An initial public offering (IPO) refers to the process of offering shares of a private corporation to the public in a new stock issuance. Public share issuance allows a company to raise capital from public investors.

Problems of raising money

- Startups with no clarity on whether their idea would succeed. Quite naturally, only risk capital was available to startups.
- Part of this frustration among entrepreneurs was misplaced, in my opinion. You can't take huge sums of money from an investor and expect the investor to just be a bystander.
- Anyone who believes venture capitalists (VCs) don't give operational freedom need to see how tightly public markets control a company's direction.
- A public company that is not managed well also runs the risk of being taken over by someone who believes they could run it better. So the belief that a startup will have total operational independence when it raises money from the public is a convenient illusion.
- Startups that are burning money to acquire customers with no clarity on whether the business will ever be profitable or sustainable cannot be allowed to take money from the public.

Implications of an IPO

- Small startups that can be run profitably are the best candidates to raise money through an IPO. They can retain control, and provide steady returns to their investors.
- Venture Capitalists and private equity investors are generally not interested in companies that don't aim to disrupt and grow.
- The via media provided by Sebi and the stock exchanges to help startups raise money through this route is helpful for a certain category of them.
- These startups are huge capital guzzlers. The limited option of listing on the small and medium-sized enterprise platform will not quench their appetite for capital.

Though the Government policies towards public sector banks addressed some legacy issues, several fundamental issues remain that need to be tackled. Discuss

KEY POINTS

- With nationalisation in 1969, banking became a bureaucratic system that collected deposits, administered interest rates and disbursed loans as per plan priorities.
- The public sector banks were also used for managing fiscal stress, which, to an extent, was shifted to public sector banks and hidden there.

Legacy issues

- The reforms of 1991 saw a new paradigm in the banking system regarding ownership, regulation and competition. The banking industry was opened to privately-owned banks enhancing competition, while public sector banks were expected to compete among themselves.
- Reduction in the shareholding of the government in public sector banks, however, did not dilute government's role in governance since they are not governed by Company Law, but by relevant nationalisation legislation.
- Prudential regulation and supervision by RBI was gradually oriented to global best practices.
- The dual control of public sector banks, namely by the government and RBI was not ended, while consolidation of public sector banks took place in an adhoc manner.
- The policy of public-private partnership in infrastructure etc ushered in the new millennium led to liberal use of public sector banks by government to intensify crony capitalism.

Fundamental issues

- In the post 2008 crisis era, all banks in India temporarily benefited from excess or prolonged stimulus and regulatory forbearance.
- The farm loan waivers on a national scale also had an impact on the fiscal-public sector bank interface.
- In 2016, it became evident that public sector banks had greater share of the problems, warranting the injection of additional capital by government. In contrast, private sector banks performed better as per standard indicators.
- The political consensus continues to be in favour of continuing with public ownership and control of existing public sector banks. The owner, regulator, the management and the large borrowers blame one another for the sorry state of these banks, while the tax payer pays for the losses.
- The share of public sector banking is shrinking. That is why there is budgetary support in 2019.

Core issues to be addressed

- There is a need to have a board of directors that commands the trust and respect of the professionals.
- Objective decision on the dual control over Public Sector Banks exercised by the government and the RBI.
- The future of the banks and their professionals be determined by their performance rather than the uniformly applied government policies towards public sector banks.

Explain the various factors which affect the growth rate of exports in India and discuss about key measures taken by the Government for promotion of exports.

KEY POINTS

Factors affecting growth rate of exports

- India's exports have faced a very challenging period in recent years, on account of developments arising from the global financial crisis of 2008-09, which accentuated after 2013-14, when the world economy experienced a major trade slowdown.
- The new data from the Union Ministry of Commerce has revealed that India's exports shrank by over 6 per cent is a reminder of the long-term slowdown that has plagued exporting sectors.
- The decline in exports of engineering goods, which fuelled a minor recovery in the last financial year, is particularly troubling.
- Even the global slowdown in trade engendered by this tension nevertheless offers a chance for India, with a measly 2 per cent of world trade, to expand into new markets.
- Turnaround time of ships in India is huge hampering the time of delivery of goods.
- Lack of dedicated freight corridors country constraints the transportation of raw materials from one place to another.

Key measures for promotion of exports

- A new Foreign Trade Policy (FTP) 2015-20 was launched on 1st April 2015. Merchandise Exports from India Scheme (MEIS) for improving export of goods and 'Services Exports from India Scheme (SEIS)' for increasing exports of services. Duty credit scrips issued under these schemes were made fully transferable.
- A new Logistics Division was created in the Department of Commerce to coordinate integrated development of the logistics sector. India's ranking World Bank's Logistics Performance Index moved up from 54 in 2014 to 44 in 2018.
- A new scheme called "Trade Infrastructure for Export Scheme (TIES)" was launched with effect from 1st April 2017 to address the export infrastructure gaps in the country.
- A comprehensive "Agriculture Export Policy" was launched on 6th December, 2018 with an aim to double farmers' income by 2022 and provide an impetus to agricultural exports.
- A new scheme called "Transport and Marketing Assistance" (TMA) scheme has been launched for mitigating disadvantage of higher cost of transportation for export of specified agriculture products.

Explain the various impacts on India's macroeconomic stability and financial health of states due to farm loan waiver policy.

KEY POINTS

- The **report of an Internal Working Group (IWG)** by **RBI** has shown how farm loan waivers dented state finances and urged governments both central and state to avoid resorting to farm loan waivers.
- Since 2014-15, many state governments have announced farm loan waivers. This was done for a variety of reasons including relieving distressed farmers struggling with lower incomes in the wake of repeated droughts and demonetisation.

The impact on state finances

- Between 2014-15 and 2018-19, the total farm loan waiver announced by different state governments was Rs 2.36 trillion. Of this, Rs 1.5 trillion has already been waived.
- The actual waivers peaked in 2017-18 in the wake of demonetisation and its adverse impact on farm incomes and amounted to almost 12 per cent of the states' fiscal deficit.
- In essence, a farm loan waiver by the government implies that the government settles the private debt that a farmer owes to a bank.
- But doing so eats into the government's resources, which, in turn, leads to one of following two things: either the concerned government's fiscal deficit (or, in other words, total borrowing from the market) goes up or it has to cut down its expenditure.
- A higher fiscal deficit, even if it is at the state level, implies that the amount of money available for lending to private businesses both big and small will be lower.
- It also means the cost at which this money would be lent (or the interest rate) would be higher. If fresh credit is costly, there will be fewer new companies, and less job creation.

Impact on India's macro-financial stability

- Cutting capital expenditure to achieve the target of Fiscal deficit as per FRBM act 2008.
- Increasing Non-performing assets, and worsening credit culture impact the disbursal of credits and affects economic growth trajectory.
- At the macro level, waivers lead to crowding-out of private investment as increase in government borrowings to fund waivers tends to increase cost of borrowing for private borrowers.
- Thus, higher fiscal deficits may not be offset by higher GDP gains and may eventually stoke inflation. In any case, a limited section of farmers get relief from waivers.

Prime Minister Economic Advisory Council is one of the important institutions in taking crucial decisions for proper functioning of the Indian Economy. Explain

KEY POINTS

PMEAC

The Council was set up with a view to provide a sounding board for inculcating awareness in government on the different point of view on key economic issues.

Role and functions of PMEAC

- Analyzing any issue, economic or otherwise, referred to it by the Prime Minister and advising him thereon;
- Addressing issues of macroeconomic importance and presenting views thereon to the Prime Minister. This could be either be suo-moto or on a reference from the Prime Minister or anyone else;
- Submitting periodic reports to the Prime Minister on macroeconomic developments and issues with implications for economic policy;
- Attending to any other task as may be desired by the Prime Minister from time to time.

Importance of PMEAC

- The periodic reports of the PMEAC the annual *Economic Outlook and Review of the Economy* - are the most widely followed.
- Additionally the remarks and opinions of the Chairman and members of the PMEAC get widespread media coverage and are influential in formulation of the policies of other economic agencies, financial institutions and businesses.
- Many financial periodicals publish interviews and speeches of PMEAC Chairman to understand the most critical economic woes facing the country like inflation, monetary measures etc.
- Views of the PMEAC are also sought after to better understand the prospects of economic performance of India like its growth rates as well as on policy matters like *autonomy of regulators* and cotton export policy.
- In February 2011, PMEAC recommended to the government to initiate the process of fiscal consolidation given that the international financial crisis has started to ease and the government had to re-initiate its commitment to the Fiscal Responsibility and Budget Management Act.

In the light of frequently occurring crisis in banks, Reserve Bank of India needs to upgrade its oversight capacity to prevent them in future. Analyse

KEY POINTS

Need for better oversight

- Regulators should be able to detect early warnings of such problems, not have to take drastic action only after they are told of them.
- The RBI must introspect on the fact that its auditors failed to detect the problem that has been festering for many years. Nor is this the first such time that the RBI has failed in its supervisory task.
- It did not detect an ongoing fraud at Punjab National Bank, for example, which misused the SWIFT inter-bank transfer system among other facilities.
- The regulator failed for years to either detect the fraud, respond adequately to red flags in the banking system, or correct a breakdown of normal practices at the bank.
- The IL&FS issue, which thrust the non-banking financial sector into a crisis from which it is yet to emerge, is another such recent oversight.
- There is no alternative to raising the RBI's capabilities when it comes to banking oversight. In the last Union Budget, the RBI was given additional powers to regulate the NBFC sector and housing finance when it has barely demonstrated the capacity for the oversight of the sectors over which it had full powers.

For better oversight

- Central banks, such as the US Federal Reserve, have clear and public manuals on how it conducts banking supervision.
- The RBI should also expose its process to public scrutiny and discussion. When a final and acceptable process is arrived at, the RBI can structure its audit and enforcement capacity around that process.
- Similar rigour should be shown when it comes to drafting new regulations, which can currently be done by the central bank's staff arbitrarily and non-transparently.

- Instead, new regulations which, after all, must be designed in tandem with the capacity to enforce them must be made after input from outside experts, in response to a clearly stated or foreseen need, and with the approval of the RBI's board or a sub-committee thereof.
- The question of appeals to the RBI's decisions should be re-opened. The quality of supervision by the securities regulator has been greatly improved by the presence of a relevant appellate tribunal.

9. AGRICULTURE

Whether providing interest subvention to small and marginal farmers through Direct Benefit Transfer allows them to get access to institutional credit efficiently? Analyse

KEY POINTS

- To ensure that millions of small and marginal farmers—India has a total of around 120 million farmers are not at the mercy of moneylenders, or other expensive sources of finance, the government has, historically, mandated that banks ensure that a certain share of their lending is to these farmers.
- Currently, 18% of all bank lending has to be mandatorily lent to the agriculture sector. And, to ensure farmers get loans at low rates of interest, the government pays a certain proportion of the interest to banks directly while farmers pay the rest.
- A report by an RBI internal working group on agriculture credit, however, points to major problems in how the scheme is working; in which case, the government probably needs to look at completely recasting it.
- The good news here, of course, is that while formal bank credit was just around 10% of total farm credit in 1951, this is up to around 70% today.
- But here's the problem, the concessional farm credit that is given by commercial banks mostly in the public sector is many times greater than the inputs bought by farmers;
- In all probability, as researchers other institutions have surmised over the years, since the loans are at vastly subsidised rates, they are probably being diverted to non-farm users;
- So, RBI found that in Andhra Pradesh, the total bank credit going to the farm sector is 7.5 times the cost of inputs bought by farmers; this is six times in Kerala, five for Goa, four for Telangana.
- The RBI study also found that while livestock, forestry, and fisheries contributed around 38-42% of agriculture output during 2014-16, this sector got just 6-7% of total agriculture credit; clearly, this is an issue that needs addressing.
- long-term investment in agriculture is getting compromised; at a time when overall investments in agriculture are slowing—investment-to-agri-GDP fell from 18.2% in FY12 to 13.8% in FY17—and, within this, the share of the government has fallen even more sharply, this needs to be corrected.
- Ideally, the government should stop the practice of subsidised loans, and instead, give the subsidy directly to farmers through DBT; once subsidised loans are not available from the banks, the practice of huge loans will also stop.
- Over time, all agriculture subsidies should be trimmed, and money should be invested in creating irrigation, or other facilities that benefit the sector more.

What is meant by Participatory Guarantee Scheme? How does it incentivise farmers to grow organic food? Discuss the advantages and limitations of the scheme.

KEY POINTS

Participatory Guarantee Scheme

- PGS is a process of certifying organic products, which ensures that their production takes place in accordance with laid-down quality standards. The certification is in the form of a documented logo or a statement.
- PGSSs are locally focused quality assurance systems that certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange.

Four pillars of PGS

PARTICIPATION: Stakeholders such as producers, consumers, retailers, traders, NGOs, Gram Panchayats, and government organisations and agencies are collectively responsible for designing, operating, and decision-making. Direct communication among the stakeholders helps create an integrity- and trust-based approach with transparency in decision-making, easy access to databases and, where possible, visits to farms by consumers.

SHARED VISION: Collective responsibility for implementation and decision making is driven by a common shared vision. Each stakeholder organisation or PGS group can adopt its own vision conforming to the overall vision and standards of the PGS-India programme.

TRANSPARENCY: At the grassroots level, transparency is maintained through the active participation of producers in the organic guarantee process, which can include information-sharing at meetings and workshops, peer reviews, and involvement in decision-making.

TRUST: A fundamental premise of PGS is the idea that producers can be trusted, and that the organic guarantee system can be an expression and verification of this trust. The mechanisms for trustworthiness include a producer pledge made through a witnessed signing of a declaration, and written collective undertakings by the group to abide by the norms, principles and standards of PGS.

Advantages

- Procedures are simple, documents are basic, and farmers understand the local language used.
- All members live close to each other and are known to each other. As practising organic farmers themselves, they understand the processes well.
- Because peer appraisers live in the same village, they have better access to surveillance; peer appraisal instead of third-party inspections also reduces costs
- Mutual recognition and support between regional PGS groups ensures better networking for processing and marketing.
- Unlike the grower group certification system, PGS offers every farmer individual certificates, and the farmer is free to market his own produce independent of the group.

Limitations of PGS

- PGS certification is only for farmers or communities that can organise and perform as a group within a village or a cluster of continuous villages, and is applicable only to farm activities such as crop production, processing, and livestock rearing, and off-farm processing “by PGS farmers of their direct products”.

- Individual farmers or group of farmers smaller than five members are not covered under PGS. They either have to opt for third party certification or join the existing PGS local group.
- PGS ensures traceability until the product is in the custody of the PGS group, which makes PGS ideal for local direct sales and direct trade between producers and consumers.

Harmonisation of food safety standards is indispensable for boosting food trade globally and to protect the health of the consumers. Discuss

KEY POINTS

The WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) sets out the basic framework and standards for food safety, animal and plant health standards.

Boosting food trade

- While giving a platform to countries for framing own standards, it notes that regulations must be justified through science, i.e. regulations should be implemented only to the extent necessary to protect the animal, human or plant life or health, and also not unjustifiably discriminate between countries where identical or similar conditions prevail.
- Although member countries are encouraged to use international standards, guidelines and recommendations, they may use measures that result in higher standards if there is a requisite scientific justification.
- The Codex process involves broad international input and sound scientific support from expert panels. Codex food safety standards thus guide countries in adoption of national food safety standards and regulations that protect public health within their respective territories and promote fair practices in food trade. Ironically, even today, economies digress from the Codex standards.
- To illustrate, the maximum residual limits (MRL) of carbendazim in orange juice is different for each country. In Canada, it is 500-600 (parts per billion, ppb), in the EU 100-700 ppb, and in the US barely 10 ppb.
- Apparently, the US gives justification for this to ensure a continued safety of orange juice that is fit for human consumption. This, in a way, is an articulation of divergence from Codex standards and proliferates barriers for developing and less developed countries aspiring to export.

Protecting health of consumers

- The highest priority of the Codex Alimentarius Commission, as stated in Article 1 of its statutes, is to protect the health of consumers
- Maintaining and satisfying each country's food safety standards have become a costly affair and also ambiguous for member countries.
- During early 2000s, the African economies lost sizeable exports worth \$670 million to the EU due to strict aflatoxin MRL acceptability. The risk on human health due to this strict food safety measure was estimated at 1.4 deaths per billion in a year.
- So internationally acceptable standards are essential for protecting the health of consumers.
- Concern about safety of new technologies, like food irradiation, has been addressed and recommendations have been made by Codex.
- This ensures that the shelf life of food is maintained properly for the safe consumption of food.

What are the various measures that Government of India must take to promote adoption of technology in farming? Elaborate

KEY POINTS

- As per the Economic Survey 2019, the share of private investment in gross capital formation in agriculture and allied sectors has declined from 88% in 2013-14 to 82.67% in 2016-17.
- Slow growth in private investment is due to poor economic incentives and low opportunity cost of factors employed, often fuelled by volatile markets.

Measures to promote adoption of technology

- Enhancement of farm savings requires better market price and margins, which would only happen with fairly deliverable markets, and this is a herculean task.
- The Agriculture Marketing and Farmer Friendly Reforms Index proposed by the NITI Aayog has the potential to improve competitiveness, efficiency and transparency in agricultural markets.
- The index also captures reforms like liberalisation of land lease and freedom to farmers for felling and transit of trees grown on private land.
- Investments through credit may be enhanced to the needy and hard-working farmers/enterprises through an alliance system comprising key stakeholders.
- For instance, in African nations, government-supported AGRA system (Alliance for a Green Revolution in Africa) is working in tandem to address the issue of credit access and low-cost finance to small farmers, input suppliers, farm cooperatives, agro-processing units and value-chain operators.
- The concept of smart/precision farming, climate smart villages, organic villages can be platforms for companies to showcase their CSR spending. Tax sops to companies investing in agricultural R&D would help attract private investment.
- Farm research system in India is one of the world's largest in terms of scientific and supporting staff. Farm management systems can be established where agricultural scientists from public research institutions and universities can provide free advisory services. Companies can raise funds to manage privately-held farmlands. For instance, in South America, privately-held farmland management companies raise funds and manage farmland holdings for investors that include wealthy family groups and financial institutions.
- These measures will push private sector investments in new areas from the traditional tractors and farm equipment. Investments are needed in food processing, warehouses, cold storages and supply chain management.
- Horticulture is another sector with a potential of additional 4 million hectares that can create 8 million additional jobs. Infusion of technology and investments can help reduce the huge post-harvest losses, estimated to be almost 25-30% of the production, and result in returns for investors as also higher incomes for farmers.
- In India during favourable seasons, dietary habits and consumption patterns of people make them use less processed food products as against perishables, but urbanisation and price volatility has the potential to push demand for processed food.

10. ENERGY

The coal gasification technology holds good potential in the future for India in reducing its energy imports and producing cleaner energy. Explain

KEY POINTS

- Recently, Odisha's Talcher fertiliser plant was awarded a contract for starting a coal gasification unit for the production of urea and Ammonia.
- It was part of the government's initiative to revive closed fertiliser plants belonging to the Fertiliser Corporation of India Limited (FCIL) and the Hindustan Fertilisers Corporation Ltd (HFCL).
- The decision is geared towards reducing India's reliance on imports and helping the country meet its CoP-21 Paris Agreement commitments.
- Coal gasification is the process of converting coal into synthesis gas (also called syngas), which is a mixture of hydrogen (H₂), carbon monoxide (CO) and carbon dioxide (CO₂). The syngas can be used in a variety of applications such as in the production of electricity and making chemical products, such as fertilisers.
- According to the International Energy Agency's Energy Technology Systems Analysis Programme (ETSAP), the coal gasification process holds good potential in the future, with coal being the most abundantly available fossil fuel across the world, and that even low-grade coal can be used in the process.
- The usage of locally available coal for making fertilisers would help reduce the import of LNG.
- The Talcher project's environment-friendliness would help India in meeting its commitments under the CoP-21 Paris Agreement.

Cleaner Energy

- One of the major environmental advantages of coal gasification is the opportunity to remove impurities such as sulfur and mercury and soot *before* burning the fuel, using readily available chemical engineering processes.
- In addition the ash produced is in a vitreous or glasslike state which can be recycled as concrete aggregate.
- The increased efficiency of the 'combined cycle' for electrical power generation results in a 50% decrease in CO₂ emissions compared to conventional coal plants.
- As the technology required to develop economical methods of carbon *sequestration*, the removal of CO₂ from combustion by-products to prevent its release to the atmosphere, coal gasification units could be modified to further reduce their climate change impact because a large part of the CO₂ generated can be separated from the syngas *before* combustion.

11. SCIENCE AND TECHNOLOGY

Though DNA fingerprinting technology has helped in solving many crimes, its efficiency is affected by a lot of loopholes in India. Examine

KEY POINTS

Relevance of DNA Finger Printing

- **Forensics:** As most TV watchers know, DNA fingerprinting can be accomplished with a very small quantity of DNA and is a sure-fire way to "finger" a culprit in a crime. Similarly, DNA fingerprinting can and does exonerate

innocent people of crimes—sometimes even crimes committed years ago. DNA fingerprinting also can be easily used to identify a decomposing body.

- **Noncriminal Identification:** DNA fingerprinting can answer that question quickly and accurately. In addition to identifying adoptive children and settling paternity suits, DNA fingerprinting also has been used to establish a relationship in the case of inheritance. More than once, DNA fingerprinting has made it possible for people separated as a result of natural disaster or war to find their children and parents.
- DNA Technology (Use and Application) Regulation Bill, 2019, a draft legislation that looks to establish DNA data banks around the country in order to identify victims, offenders, suspects and the like using genetic information. The data that is accumulated in this manner will then be used to identify people involved in criminal cases, as evidence in judicial proceedings, and also to facilitate the prosecution of criminal cases.

Loop holes in Finger printing

- Instances abound where polluted DNA crime scene data has resulted in the prosecution of innocents.
- As much as DNA information provides us a profile of criminals, it could drag their innocent relatives into the net as well.
- This sort of use of such forensic technology constitutes a disproportionate incursion into our privacy and we need to ask ourselves whether such a law is really necessary.
- Faked prints in the crime scenes also wrong doers to deviate the investigation of cases.

12. DISASTER MANAGEMENT

We must urgently need to shift our focus from rescue and relief operations to long-term risk management to handle the disaster management effectively. Explain

KEY POINTS

Rainfall variability has caused floods and water shortages across the country, including in the most unlikely of locations.

A report by the United Nation's Intergovernmental Panel on Climate Change predicts such changes are irreversible, and will continue to result in extreme weather conditions.

Understanding nature's wrath

- We have moved from living with nature, the way the homes of our grandparents reflected, to a far more affluent and arrogant lifestyle where we love to dare nature by constructing on the most hazard-prone lands, including hillslopes, riverbeds, lakebeds and seafronts.
- Whatever buffers we had in the form of natural vegetation that held slopes together and kept inundation in check, have also been lost to the new development pattern. While we revel in our successes on such development, nature does finally strike to reclaim these lands.
- Furthermore, we continue to use 19th century models to respond to 21st century disasters. These methods follow an archaic system, where disasters are expected to follow a “season” and hit only in known geographies.
- Water released in dams, for example, is based on a manual system of measurement and prediction. Planning of our cities may be getting smarter from a technological point of view, but the fundamentals remain rooted in a narrow view of the economy, instead of expanding into an ecosystem-based perspective.

Better response to future

- Advanced prediction of heat waves using advanced super computers like Mihir
- Those living in vulnerable areas need the ability to assess their local risks better, and get access to accurate and easy to understand early warning.
- Notable disaster risk reduction efforts today are helping village communities in Bihar monitor their rivers and translate warning data into local actionable information;
- Enabling tribal families in North Kerala figure out nature-based solutions to secure themselves against landslides;
- Teaching school children in Uttarakhand how to assess and address risks within their school environments; and helping children in Sikkim operate a weather station and climate-lab within their school.
- Long-term resilience in response to the new risks identified was missing from fundamental approach to disaster recovery. The job of the humanitarian world should be to provide resources and begin reconstruction in affected areas from day one, that is, to help faster recovery for affected families and build better and safer communities.

13. ENVIRONMENT

Do you think that stopping or reducing the usage of chemical fertilisers alone will help in reversing the degradation of land? Examine

KEY POINTS

Chemical fertilisers alone are not responsible for degradation of land and its fertility. Nor a reduction in their use alone would check this menace.

Factors of Land degradation

- The significant factors are: Improper tillage; inept on-farm land and water management; soil erosion; water logging; salinity, alkalinity; imbalanced nutrient application; deteriorating biological and microbial profile of soils and, most importantly, the neglect of organic manures.
- The fertiliser-responsive high-yielding crop varieties which brought about the green revolution that made the country surplus in most agri-products.
- Such high-output varieties normally require larger amounts of soil nutrients which farmyard manures alone cannot provide. These manures are, however, essential to supply micronutrients which the chemical fertilisers generally lack.

Challenges

- While on the one hand it intends to discourage chemical fertilisers, but on the other, it offers hefty subsidies on them, more than 70 per cent in the case of urea to push up their consumption.
- There are problems also with the subsidies. These are neither rational nor uniform for different types of fertilisers. These, therefore, result in the imbalanced use of nutrients to the detriment of soil health.
- Moreover, while phosphatic, potassic and mixed fertilisers have been brought under the nutrient-based subsidy (NBS) scheme, the most-consumed urea has, for inexplicable reasons, been left out of it.
- The price of urea, too, has been kept unreasonably low. Steps like rationalisation of subsidies and decontrol of urea prices by bringing it under the NBS regime are vital to ensure balanced application of nutrients.

Measures

- The need truly is to curb the injudicious use of fertilisers and promote their need-driven application.
- Farm experts, therefore, recommend the conjunctive use of chemical fertilisers and organic composts for best results.
- Studies have shown that fertilisers, if applied in the right quantity, at the right time and at the right place (root zone), along with adequate doses of organic manures, tend to preserve soil productivity rather than spoil it.
- Introduction of the soil health cards system and mandatory neem-coating of urea can be the typical cases in point. The next logical step would be to incentivise the production and use of organic manures and bio-fertilisers by offering fiscal incentives at par with those of chemical fertilisers.
- The Indian Council of Agricultural Research (ICAR) has recently developed a liquid bio-NPK formulation which can augment the supply of all the three major plant nutrients (N or nitrogen, P or phosphate and K or potash) without harming the soils.

How does the issuing green bonds overseas help Government of India realise the goal of creating a clean environment? Substantiate

KEY POINTS

- One of the ways to incentivise sustainable development is through low-cost financing for sustainable projects. Developed world has already recognised the need of dedicated funds for greener projects at low cost.
- India is implementing the National Action Plan on Climate Change (NAPCC) to reduce emissions intensity—GHG emissions per unit of GDP—by 33-35% below 2005 levels by 2030. At least 40% of its energy in 2030 would be generated from non-fossil fuel sources.
- Hence, we need a far-sighted programme and creative solutions to address the environmental challenge. Green bonds have emerged as a way to fund green projects that can reduce the cost of capital and improve returns.
- Leveraging debt capital markets towards sustainable transport infrastructure development and services has a huge potential to help achieve climate goals—71% of climate-themed bonds issued relate to low-carbon transport.
- As per the Climate Bonds Standard and Certification Scheme of Climate Bonds Initiative, certain areas are most likely to get acceptance in the green bond market.
- These include transport infrastructure; alternative (low-carbon) energy refuelling distribution infrastructure; vehicle technologies to significantly increase emissions efficiency (including fuel efficiency, fuel type and other vehicle improvements); and new vehicle technologies and hybridisation, autonomous/semi-autonomous vehicles.
- The Indian Railway Finance Corporation (IRFC) set up a Green Bond Framework for fund raising. The proceeds were proposed to be used for financing the Dedicated Freight Corridor and electrification of railways. The IRFC had raised \$500 million in 2017 from the 10-year green bond through India INX, GIFT City.
- The Economic Survey 2018-19 notes that India needs to almost double its annual spending on infrastructure at \$200 billion, which will require harnessing private investment.
- The government can do well by setting up a Green Investment Trust, an agency for green financing, to fund green infrastructure projects. The trust can tap green funds abroad and channel the same towards green projects in India.

Did the concept of carbon credits really help Government of India to reduce the carbon emissions effectively? Critically examine.

KEY POINTS

Carbon credits have helped

- The policy push to solar power and the efforts to shift to EVs must count as notable steps to reduce carbon emissions, afforestation is what matters most.
- The Odisha government is the pioneer among the states in constructing roof top solar energy project with help of world bank. About 900-1000 government buildings covering 17 cities and towns
- The Centre for Science and Environment points out, soil degradation accounts for more emissions than any other activity since the ‘soil stores three times the amount of carbon as the atmosphere’.
- An intensive afforestation programme requires adoption of the right forestry practices, and above all, a good amount of money.

Carbon credits haven't helped

- Under the 1997 Kyoto Protocol to voluntary ones under the 2015 Paris accord, it also impacted the shift towards clean development engineered by ‘carbon credits’ or carbon emission reduction certificates.
- But since these certificates were often under-priced and the wrong projects identified, neither party met their obligations.
- After the Paris pact, targets became insignificant, knocking the bottom out of the carbon credits market. Not surprisingly, as the UNEP report on ‘emissions gap’ released last November observes, global emissions peaked in 2017 after three years of stagnation.
- Global funding for afforestation Reducing Emissions from Deforestation and Degradation plus conservation, sustainable management of forests, and enhancement of forest carbon stocks (REDD+) has failed due to faulty carbon pricing and the poor negotiating rights of traditional communities. A multilateral body just for funding green initiatives must be set up.
- But the best recourse is to leverage a corpus set up under the initiative of the Supreme Court in 2002 — the Compensatory Afforestation Management and Planning Authority.
- Under this, projects in forest areas have to compensate for the forest cover destroyed by depositing a value in the CAMPA corpus, which will be used for forestry programmes. CAMPA, managed well by an autonomous authority, should put a price on dirty development. That’s the best way forward.

Why the climate action must focus more on combating desertification in India? Substantiate

KEY POINTS

Reasons

- India is hosting the 14th Conference of the Parties (CoP14) of the United Nations Convention to Combat Desertification (UNCCD).
- Annually, some 12 million hectare (ha) of productive land across the world—for perspective, this is 80 times the size of Delhi—is getting degraded.
- Desertification is one of the most visible manifestations of anthropogenic climate change effects. Desertification is a double whammy—other climate change effects, like prolonged droughts, increasing

incidence of downpour, floods and landslides, are making it worse at a time when the demand for all that land provides (food, shelter, fuel, fodder and natural resources) is increasing.

- India mirrors the world's misery—as per an atlas developed by Isro's Space Application Centre in 2018, some 96.40 million ha, or about 30% of the country's total area, is undergoing degradation.
- Of the 228.3 million ha of drylands in the country, 82.64 ha is undergoing desertification—that translates to roughly a quarter of the country's area.
- A 2018 Teri report estimates that India's land degradation costs the economy \$48.8 billion annually, or nearly 2.5% of the GDP in FY15, and more than 15% of the GVA from agriculture, forestry and fishery.
- The drying up of the Himalayan springs—3 million of India's 5 million springs originate in these ranges—is also a major contributor to desertification in the Gangetic plains.
- Climate change effects, such as rising mercury/extreme dryness, massive and frequent flooding, extreme weather events, among others—thanks to a range of human activity, from deforestation to mindless resource extraction—are to blame.
- CoP14, spoke of the need for a global water action agenda to check desertification while setting a national goal of controlling degradation/desertification of 26 million hectares by 2030.
- In Rajasthan, the Central Arid Zone Research Institute has implemented measures that involve the plantation of specific brushwood/grass in a specific pattern, and other vegetation to reduce wind erosion, and stepped up water management efforts in the driest districts.
- The plantation efforts, CAZRI data shows, has brought down soil loss by 76%. The cost of battling desertification worldwide is estimated at \$450 billion annually.

Greater participation of youth in Global Strike movement shows the lackadaisical approach towards climate change by the international community and the extent of seriousness of it. Elucidate

KEY POINTS

- Students in more than 2,000 cities across the world are holding demonstrations under the FridaysforFuture movement, protesting inaction towards climate change.
- In a parallel movement, millions of adults will be joining them in the Global ClimateStrike. While students will be walking out of classrooms, adults will be walking out of their workplaces and homes.
- Environmental activists participate in a Global Climate Strike near the Ministry of Natural Resources and Environment office in Bangkok, Thailand
- In the present phase of the strikes, students are demanding “urgent” and “decisive” action in order to keep global average temperatures from rising above 1.5 degree Celsius.

Criticisms of the international community

- The global school movements began in 2015. Under this strike, students were urged to skip school and join other protestors. The strike was meant to be a “wake-up call” for the young generation. Their demands at that time were to stop the extraction of fossil fuels and to make the transition to 100 per cent clean energy.
- A globally coordinated action by the young generation to answer the inability of the old generations to solve the climate issue.

Why are students protesting this time?

- Even though climate change affects everyone, the present generation of youngsters are the ones who are going to be bearing the brunt of it in the coming decades.
- The sentiments behind these school student movements are the “broken promises” of older generations, members of which continue to extract and use fossil fuels, leading to increased CO₂ emissions and subsequently, increasing average global temperatures.
- “They promised to cut CO₂ emissions but they have not done their assigned task . Instead, they keep digging and drilling for more coal, oil and gas.
- Distrust of political leaders among the younger generation is also a reason why they feel the need to take things into their own hands.
- Youths are now taking the legal route. In 2015, young plaintiffs filed a federal lawsuit, Juliana vs. United States against the US government for violating their constitutional rights by allowing the presence of dangerous emissions.

As funding from developed nations are lagging, India and other developing nations must unite to balance the trade-off between growth and climate change action. Discuss

KEY POINTS

- Union government makes it clear that, with developed nations not contributing to climate action finance in the manner negotiated in different climate accords, India can only aspire to implement its already promised climate actions and do equally well or better in comparison to economies with similar levels of development.
- Thus, India, the government says, may only be in a position to clarify or elaborate its post 2020 climate actions already pledged in its NDCs (nationally determined contributions) at the summit.
- As per Climate Action Tracker (CAT), India is one of the just seven nationsnone of these is a developed countrywhose climate pledges, if all countries were at similar levels, could prevent a >2degree C rise in temperature from pre-industrial levels.
- India’s commitments under the Paris Agreement include 40% non-fossil fuel-based power generation capacity by 2030. The costs of technology in the renewables space, though inching down over the past few years, is still high.
- With funding from developed nations barely a trickle, India, thus, has said that it will ‘suitably recalibrate’ its action only after the global stock-take of progress under the Paris Agreement takes place in 2023.
- While global climate negotiations have focused on the principle of common but differentiated responsibilities, and countries’ respective capabilitiesthis acknowledges the fact that developed countries have shrunk the emissions budget for developing nations.
- The fact is that developed nations gave just \$38 billion in climate finance in 2016, against the \$100 billion a year by 2020 that had been agreed to in the 2009 climate negotiations.
- Technology transfer is also a sore point. India has invoked Article 4.7 of the United Nations Framework Convention on Climate Change, that talks of developing country parties being responsible for implementing their climate-action commitments to the extent they receive financial and technological support from developed nations.

- In order to fight climate developing nations need to reunite to address the problem of global climate funding simultaneously increasing their economic growth.

The emphasis on solid waste management under smart city mission must focus on segregation of wastes rather than investing in compactors. Justify

KEY POINTS

- The first rule of waste management all over the world is that households must segregate their waste before it is collected from the doorstep. The Solid Waste Management Rules 2016 prescribe the same.
- If we do not mix wet waste with dry waste, the burden of solid waste management on our municipalities reduces significantly. The wet waste can be composted locally; the dry recyclable waste can go for recycling and what remains can be safely disposed.
- Waste collection is organised daily for wet waste and once a week for dry waste. This is important because the unmixed transportation and processing of wet and dry waste encourages citizens to keep their waste unmixed too.
- Wet waste, more than half the total waste, is used for composting or bio methanation in a decentralised manner. It reduces, at one stroke, the need for long-distance transportation of waste by half.
- The perils of waste to energy plants which rely on the incineration of mixed waste. Such plants in India have been either non-starters or highly polluting failures. Even so, several cities are actively promoting incineration of mixed waste.

Avoiding Compactors

- Compactors are expensive machines that squeeze and compress the volume of waste.
- They enable more waste to be carried per trip and, thus, reduce transportation costs. The central message was that garbage was now going to be out of sight, and there will be no stench and vector-borne diseases in the vicinity.
- Use of compactors on mixed waste makes it almost impossible to extract the recyclable dry waste such as plastics, metal, paper and cardboard from the mixture. The compression of wet waste in the mixture releases leachate (a black foul-smelling liquid) that is difficult to dispose.
- Leachate percolates into the soil and contaminates groundwater. When it drains off into the sewer system, it overloads the sewage treatment plants.
- After the compacted waste is transported and dumped, the lack of aeration at the site results in the decomposing wet waste generating methane, a potent greenhouse gas that causes global warming.
- As waste pickers routinely light fires at landfill sites to extract scrap metal, the presence of methane gas stokes the fire further, and the presence of PVC plastic in the compacted waste means that the burning of plastics would release carcinogenic dioxins and furans.
- A much smarter alternative for municipalities under Smart Cities Mission would be to promote decentralised composting of wet waste, tie-up with local kabadiwalas or NGOs for recyclable dry waste, and work on safe disposal of the rest. for more sustainable methods of waste management.
