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G.S PAPER I

1. HISTORY

How did the Kamaraj plan of 1963 energised the Indian government from a crisis situation? Explain

KEY POINTS

- According to Kamaraj's proposal, leaders in government would quit their ministerial offices and take up organisational work, while those in the organisation would join the government.
- In 1963, defeats in three successive by-elections were the immediate provocation for the Congress to worry about its situation.
- The war with China the previous year had wrecked the morale of the leadership. Nehru's standing as a statesman was in a crisis.
- Kamaraj, proposed to Nehru that he be allowed to quit office to take up organisational work.
- The proposal came up for discussion in the Congress Working Committee, where a large number of members, among them Chief Ministers and Nehru's Cabinet colleagues, supported it.
- The AICC resolution endorsed the Kamaraj Plan on August 10, 1963.
- The Plan, on the one hand, gave to Prime Minister Nehru an unprecedented opportunity to carry out a massive reshuffle of officeholders, but on the other hand asserted the principle of equal status of the party organisation with the government.
- Kamaraj emphasised the achievement of the Congress goal of socialism without authoritarianism and class conflict.
- His first task was to ensure a smooth transition in the Prime Minister's Office.
- His next step was to infuse vigour in the party organisation, and thereby, the government. He sought to steer the party towards a federal system of leadership
- Kamaraj also preferred a collective leadership for the party, and saw himself as a consensus-builder.

2. SOCIETY

Do you think India is witnessing an unrestricted spread of majoritarianism in recent days? Substantiate your stance, and assess the role of the academia and the media in upholding pluralism.

KEY POINTS

- Historical perspective, majoritarianism inflamed the majority in Kashmir, making it the bloodiest conflict in India's history. It routinely allows majority governments passing laws or in enforcing them at will.
- Administrative aspect, unfettered majority rule is also the main reason behind India's rampant corruption. It was an out of control majority that allowed Indira Gandhi to end India's democracy altogether.



- Legal perspective, the legal institutionalisation of state impunity in ‘disturbed’/conflict areas, such as the Armed Forces Special Powers Act that is in force in Kashmir and the Northeast have created extraordinary situations.
- Mob lynching is one of the recent example happened in Jharkhand and Assam, shows the hidden identity of majoritarianism.
- In academics, only few areas like engineering, medicine are given first priority; arts based areas like literature, journalism are neglected. When majority of students opt for particular area or field, other students tend to go with them.
- The aspect of majoritarianism affects individual thinking capacity, which will have a serious consequences in future with respect to human capital formation.

Role of media and academics

- Ensuring quality of education, providing needed information to people to help people with various choices.
- Honest reporting by investigative journalists will help in exposing the problems in society.
- Promoting the essence of secularism.

Integral Humanism can help resolve various kinds of problems existing today by reconciling nationalism and internationalism. Elucidate

KEY POINTS

- Integral humanism was coined by great national leader PanditDeendhayalUpadhyaya.
- The core principle of humanism emphasized that unifying principle of every object in the universe, and of which humankind was a part. This, claimed Upadhyaya, was the essence and contribution of Indian culture.
- Nationalism as a concept arrived relatively recently with the origin of “nation-states” in 17th-18th century Europe.
- The idea of oneness amongst people of all races, caste, creeds, geographies and gender is fundamental to the interpretation of integral frameworks in the international context.
- Perfectly compliant with the modern notions of democracy and the UN, the integral doctrine is perhaps the oldest framework for human rights.
- It accords equal rights to all by virtue of the intrinsic unity in life forms. This template is not only democratic but goes a step further in promoting the case for social justice and equal opportunity for even the last man standing.
- In this worldview, identifying with both one’s nation and the rest of the humanity becomes the basis of peaceful co- existence. Most importantly, this idea of collectivity is not antagonistic to “nation first” thinking.
- In the light of the Sustainable Development Goals, it is noteworthy to see how Integral Ecology takes us back to the age-old wisdom of interdependence with nature. Rejecting the difference between human, animal and plant forms, an integral framework treats the environment as a global good, making environmental protection the shared responsibility all of humanity.
- the entire world is my family, reiterates the Advaita thought on how each one of us across the globe are intrinsically connected both in our challenges and opportunities.
- The principles of Integral Humanism offer a non-dualistic prism for perceiving the world we live and acting upon the fundamental unity of humankind — an outlook which offers powerful solutions for political, social and economic cooperation across the world.



3. GEOGRAPHY

In spite of having diverse mineral resources, mining in India accounts only for around 2% of GDP. Explain

KEY POINTS

India has a variety of mineral reserves like uranium reserves of Jharkhand, copper mines of Khetri, coal mines in Jharia, monazite reserves in east and west coastal plains of India.

Problems with mining industry in India

- Extraction and management of minerals must be integrated into the overall industrial strategy. But India's imports of non-fuel minerals are much higher than exports.
- Small-sized mines dominate the industry. Mining in India is largely public-sector-driven, with public enterprises accounting for around 66% of the value of mineral production.
- There is a need to create an independent mining regulatory authority for oversight at the central and state level to restore investor confidence.
- The lack of resources with public sector agencies such as the Geological Survey of India, Mineral Exploration Corporation Ltd, and other state and central agencies resulted in limited promotional exploration.
- Then the National Mineral Exploration Policy came in 2016, which is a structured framework for comprehensive exploration in the country with a judicious interplay of government support and private innovation and enterprise.
- There have been repeated violations by existing mining companies (Indian and foreign), as well as governments, of social and environmental impact assessment guidelines.
- Data from the Geological Survey of India's geological mapping should be available in a geographic information system format to facilitate entrepreneurs to take investment decisions for exploration.
- The Indian Bureau of Mines and the State Directorates of Mining need to have the capacity to undertake mineral resource estimate and reserve valuations. This requires their capacity-building.
- Scientific human resources including knowledge at the frontiers of geoscience has emerged as a bottleneck. India will need more mining engineers, geologists, geophysicists, geochemists and geo-information experts.
- Past mining operations had not given much attention to rehabilitation of people uprooted by mining, the MMDR Act 2015 provides for the creation of a District Mineral Foundation in every district affected by mining-related operations to work for the benefit of persons and areas affected by such operations.
- These foundations should deliver on rehabilitation of old mines as well as affected peoples.

How the tube wells are becoming the main cause of groundwater crisis? Suggest remedial measures for its sustainable use.

KEY POINTS

- Over 70 per cent of India's water comes from below the ground. India is, by far, the largest and fastest growing consumer of groundwater in the world.
- Over the last four decades, around 84 per cent of the addition to irrigated area came from groundwater.
- Most of this was from deep drilling of tubewells or borewells, which are the single largest source of irrigation, as also drinking water, in both rural and urban India.



- Tubewells, which were once seen as the solution to India's water problem, have tragically ended up becoming the main cause of the crisis.
- This is because we have indiscriminately drilled borewells without paying attention to aquifers, the rock formations within which our groundwater is stored.
- Much of India is underlain by hard rock formations, which have limited capacity to store groundwater and have very low rates of natural recharge. Once we extract water from them, it takes very long for water to regain its original level.
- It is also not often understood that perhaps the single most important cause of our peninsular rivers drying up is over-extraction of groundwater.

Remedial measures

- Careful crop-water budgeting enabled them to switch to less water-intensive crops, more suited to their specific agro-ecology.
- Such examples have mushroomed all over India, especially in Maharashtra, Madhya Pradesh, Kutch and Sikkim. All of them are based on collective action by farmers, who come together to jointly manage their precious shared resource.
- They develop protocols for pumping of water, sequencing of water use, distance norms between wells and tubewells and strictly adhere to them once they understand that this is the only way they can manage to meet both their farm and domestic requirements.
- Reviving ancient water harvesting structures like eris of TamilNadu, kulhs of Jammu and Kashmir, johads of Rajasthan.
- Rain water harvesting systems in homes especially in urban areas.
- Rationalizing the subsidy of free electricity, which aids reducing the usage of ground water.
- Government subsequently launched the AtalBhujalYojana should be effectively implemented, for the involvement local communities in conserving water resources.
- The JyotigramYojana of Gujarat shows the way forward here through the separation of power feeders.

4. URBAN DEVELOPMENT

Spatial transformation of Indian cities requires new planning template. Discuss

KEY POINTS

- Metropolitan regions are the engines of growth and gateways to the national and global economies.
- The term 'metropolitan area' is defined unambiguously in the Constitution as an area having a population of over 1 million, consisting of two or more Municipalities or Panchayats or other contiguous areas that may span over multiple districts.
- The Constitution provides considerable discretion to the state governments in determining the administrative boundaries of metropolitan areas. So, the metropolitan boundaries need to be delineated by state governments on the basis of market and labour force.
- A continuous urban spread constituting a town or multiple contiguous towns and their adjoining outgrowths is defined as urban agglomeration.
- The 74th Amendment Act mandated the setting up of Metropolitan Planning Committees (MPC) in all metropolitan areas, which were to prepare Draft Development Plans with due regard for coordinated spatial planning, sharing of resources, development of infrastructure, and environmental conservation.



- Creation of Metropolitan Planning Committee, District planning committee has to be made mandatory by state government.
- A range of institutions such as municipalities, and other parastatals such as State Water and Sewerage Boards continue to coexist in metropolitan regions, often with overlapping functional jurisdictions and need more coordination amongst them.
- The Delhi government has identified close to 1,800 colonies that will be regularised by the end of next month. Its implications for governance and financing will be daunting, unless explicit provisions are made through innovative measures of unlocking land value, as has been done by Bengaluru and Hyderabad.
- India has been among the fastest growing economies in the world for more than two decades. This has brought about structural transformation of the economy such that the share of agriculture in GDP has declined to 14% and that of services has increased to 58%.
- Transportation planning plays a major role in ensuring sustainable and balanced regional development through intercity and rural-urban connectivity.
- In India, integrated land use planning and transport planning is emerging in major highway projects in a number of cities. Opportunities for urban planning with integrated transport and land use on a much larger scale are emerging in the planned highway expansion in the country with the Golden Quadrilateral, freight corridors and other networks.

G.S PAPER II

5. INDIAN POLITY

Efficient judicial system in India is one of the pillars of the administration in improving ease of doing business. Explain

KEY POINTS

- Increasing the number of working days in courts and establishing of the Indian Courts and Tribunal Services (ICTS) would help enhance productivity in the judiciary, according to the Economic Survey, 2019.
- The ICTS, the Economic Survey says, would focus on the administrative aspects of the legal system and technology deployment. This helps in reducing the number of pendency of cases correspondingly.
- The projects which are stalled due to delays in judiciary will gradually restarts its process reducing the increase in costs of the projects.
- The major role to be played by ICTS would be to provide administrative support functions needed by the judiciary and identify process inefficiencies and advise the judiciary on legal reforms.
- The specialized service mentioned in the Survey will help implement process re-engineering and create a system to improve the administrative functions of the court.
- Economic Survey 2018 had highlighted how measures such as the introduction of the Insolvency and Bankruptcy Code and the adoption of the goods and services tax have had a major impact on improving the ease of doing business in India and presented evidence that the backlog of cases that weighs down the judiciary, economic tribunals and the tax department, constrains economic growth.
- This naturally got reflected in the better performance of India in ease of doing business index in 2018.
- India continues to lag on the indicator for enforcing contracts, climbing only one rank from 164 to 163 in the latest Doing Business report of 2018, according to the Economic Survey.



Does the role of speaker in parliament regarding 52nd Constitutional amendment act 1985, infringes the basic structure of the constitution? Analyse.

KEY POINTS

- The landmark judgment in *Kihoto Hollohan vs Zachillhu And Others* (1992), in which the court upheld the sweeping discretion available to the Speaker in deciding cases of disqualification of MLAs.
- The law covering the disqualification of legislators and the powers of the Speaker in deciding such matters became part of the statute book in 1985 when the Tenth Schedule to the Constitution was adopted.

Power of the speaker infringing basic structure of the constitution

- The tenure of the Speaker, who is the authority in the Tenth Schedule to decide this dispute, is dependent on the continuous support of the majority in the House .
- Therefore, he does not satisfy the requirement of such an independent adjudicatory authority.
- An independent adjudicatory machinery for resolving disputes relating to the competence of Members of the House is envisaged as an attribute of the democratic system which is a basic feature of our Constitution choice as the sole arbiter in the matter violates an essential attribute of the basic feature.
- Speaker having broad powers, given that there is always a reasonable likelihood of bias.
- Speaker tend to rule in favour of the ruling party.
- Difficult in enforcing system of checks and balances, despite the decision of the speaker subjected to judicial review.

6. HEALTH

India should take the primary healthcare seriously, and need to follow up on preventive healthcare programmes comprehensively. Explain

KEYPOINTS

- The first step should be to declare a public health emergency within the affected region with immediate effect. This would mean that the state healthcare and other concerned agencies, including the district administration and disaster management authorities, will pool their wisdom and resources.
- A blueprint of the suggested administrative mechanism can be kept ready by each state, with various functionaries nominated and notified. This can be done in districts with a poor public health record.
- The Group, normally the local people, will conduct periodic mock drills in a professional manner, particularly in more vulnerable areas. This blueprint will be actually realised as and when a need arises. The Group's resources can be unscaled suiting situational demands.
- Reorganise working of the existing government hospitals, particularly at the primary and middle level.
- As health centres across most states have adequate built up space and other infrastructure available, a part of the same can be leased to private hospital chains.
- In normal times, these privately-run units will provide regular, on payment, healthcare. Indeed, such private medical centres with their enhanced medical capacities in place can be recognised and co-opted under the Ayushman Bharat Yojana. In situations like the one under discussion here, these units can be commandeered to attend to the emergency.
- Long-term plans to create and expand healthcare infrastructure demand more time and resources. The proposed reorganisation of health centres, besides substantially adding to the existing health services at literally no cost to the government, will also help to generate a healthier work culture.



- Finally, it is of utmost importance that the functioning of such reorganised health centres be closely and professionally monitored. They should also be monitored by the local community and panchayati raj institutions.
- It may also be useful to urgently fill the perennially existing vacancies at health centres. This can be accomplished in most healthcare institutions, particularly in remote rural areas, through the contractual appointment of doctors and para medical staff by from amongst retired personnel (both civil and military).

Being the highest cause of deaths among youth, suicide needs to be acknowledged as public health crisis. Examine.

KEY POINTS

- According to the World Health Organization (WHO), for every 100,000 women, about 16 women take their own lives.
- By the data available, India's suicide rate for women is the sixth highest in the world. About a decade ago, a bulk of young female deaths in the country were attributed to child-bearing and related causes.
- The Lancet series, the last such extensive study on suicides in India, placed the death toll of suicide in 2010 at 187,000.
- The two mental ill health conditions most often associated with suicide are alcoholism and depression. Amongst the young, the commonest causes seem related to academic performance, and a "let down" in romance.
- Other factors stem from opportunity deficits and disadvantages determined by caste, economic and other forms of social inequity, political ideology, domestic violence, bullying, harassment and chronic diseases, among others.
- So government needs to declare suicides as public health crisis as soon as possible.

Measures to reduce suicides

- While there are no quick and easy solutions to the deep-rooted societal problems that are linked to suicide, there are things that each one of us can do to prevent a friend, a co-worker, a family member, a neighbour, and an acquaintance from taking the step.
- The first of these is to be more responsive to people in our immediate environment. This includes stopping by and checking on that friend who has been a little withdrawn lately, offering an ear to someone who needs to vent.
- Psychosocial interventions have been found to be beneficial for individuals who have attempted suicide. It has been observed that these interventions have dissuaded several individuals from making another attempt.
- Psychotherapy or Talk Therapy is one such type of psychosocial intervention that can effectively reduce suicide risk.
- This can help people learn new ways of dealing with stressful experiences through training;
- help individuals recognize their own thought patterns and consider alternative actions when thoughts of suicide arise;
- reduce the rate of suicide among people with borderline personality disorder, a serious mental illness characterized by unstable moods, relationships, self-image, and behaviour.
- In order to address the immense need for viable mental health care services, there is also a need to develop scalable and evidence-based models of care across the country through collaborations and partnerships.
- These models, once endorsed by the government, can be replicated across India. The Maharashtra government's partnership with Tata Trusts on mental health initiatives in Nagpur is one such example.



7. GOVERNMENT POLICIES

Regulating the use e-cigarettes by government provides viable alternative choice to tobacco users rather than consider banning it. Do you agree with this view? Substantiate

KEY POINTS

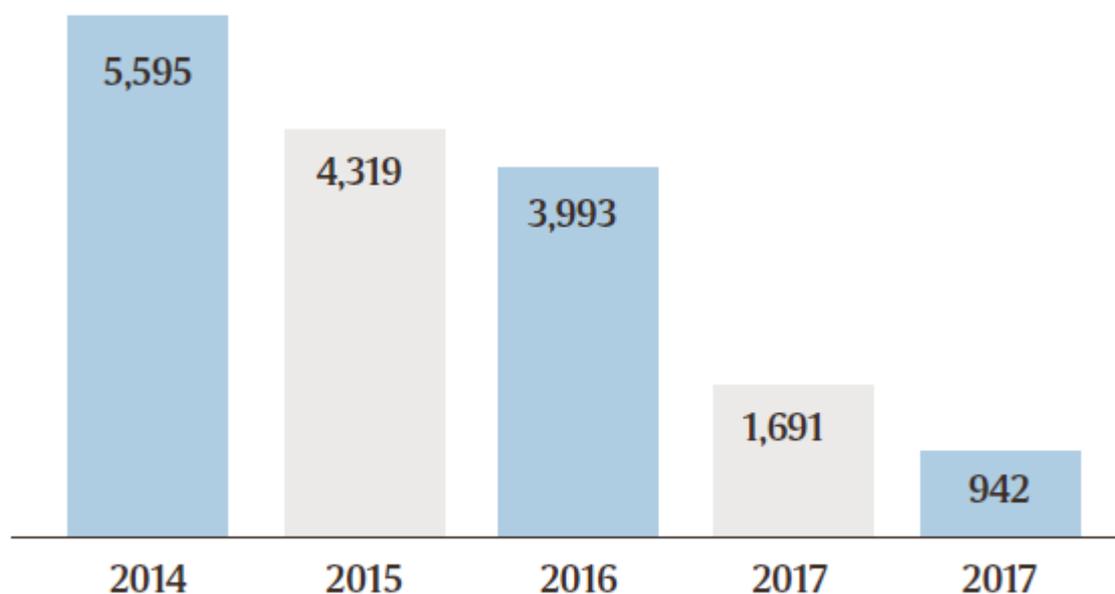
- India's tobacco problem is a cause of concern—the number of tobacco users has crossed 267 million, and five people die due to tobacco-related illnesses each minute.
- Smoke from cigarettes causes non-communicable diseases such as lung cancer, peripheral arterial disease, chronic obstructive lung disease and heart disease.
- Despite the availability of smoking-cessation medications, many smokers do not want to try them. Of those who use them, the majority either fail or relapse within a year.
- Countless efforts to reduce tobacco burden by means of taxation, stringent labelling requirements, etc, have lost the fight to control India's rising number of smokers.
- Public health experts have recommended that smokers be encouraged to switch to lesser harmful substitutes.
- At the centre of the problem sits 'tobacco addiction'. India needs a robust regulatory mechanism to make alternatives available to smokers.
- As per the available scientific evidence, it is clear that vaping is a fraction of the risk of smoking, at least 95% less harmful and of negligible risk to bystanders.
- Moreover, ban against an e-cigarette is not justifiable, when bidis and tobacco cigarettes are available at every nook and corner of our cities.
- The needs are satiated by the grey market, leading to unregulated usage, with unsafe options carelessly available.
- Restricting access to a viable alternative like e-cigarettes to people who already have full access to far more harmful conventional cigarettes, the argument is futile.
- Many nations have chosen to invest more in researching the public health impact of these devices and develop appropriate regulations for optimising its positive impact, instead of banning.
- It is crucial to consider the relative risks of e-cigarettes and conventional cigarettes while framing regulations. There is mounting scientific evidence to prove e-cigarettes are significantly less harmful than traditional cigarettes.
- It would be tragic to deny an alternative to millions of smokers. India needs to reassure its smoking population there are choices available with reduced harm.

The effectiveness of Government measures indicates the declining trend of child labour in India. Will this lead to eradication of child labour? Comment

KEY POINTS

- Instances of child labour detected during inspections have reduced successively from 2014 to 2018, figures presented by the government in Lok Sabha.
- Figures for instances of violation of the Child & Adolescent Labour (Prohibition & Regulation) Act, 1986 found during inspections, along with prosecutions started and convictions made.
- Minister of State (independent charge) for Labour & Employment the central government has taken cognisance of the practice of child labour still going on in various parts of the country in spite of a ban.

VIOLETIONS OF CHILD LABOUR ACT



Source: Ministry of Labour & Employment, Lok Sabha reply

Declining cases of child labour, reasons

- The Child Labour Act was amended in 2016 and the amendment provides for complete prohibition of work or employment of children below age 14 in any occupation and process and prohibition of adolescents in the age group 14-18 in hazardous occupations and processes.
- The Amendment Act also provides for strict punishment of employers for violation of the Act and has made the offence cognizable.
- The government is also implementing the National Child Labour Project (NCLP) since 1988 for the rehabilitation of child labour.
- Under the scheme, children aged 9-14 are rescued/withdrawn from work and enrolled in NCLP Special Training Centres before being mainstreamed into the formal education system.
- Children aged 5-8 are directly linked to the formal education system through close coordination with the SarvaShikshaAbhiyan.

Existing framework doesn't help eradicate child labour

Challenges in existing frame work

- Government has difficulties in monitoring the cases of child labour in every nook and corner of the country.
- Ex: Construction sector, brick industry employs huge number of child labour which are unnoticed despite implementation of child labour act 1986.
- Government emphasis on banning child labour without addressing the root causes.
- Lack of quality of infrastructure in providing quality education to rescued children. Vocational schools lack basic amenities like proper class rooms, sanitation facilities.
- Government selective in picking the international conventions like 138,182 of the international labour organisation to prevent the child labour in the country.

- Enforcing the minimum age for child labour does not augur well for the government in eradicating the child labour due to the complexity, diversity in Indian society.

Changes for eradicating child labour in India

- Inclusive growth
- Quality education at primary and secondary level
- Creating employment opportunities and formalizing workforce by amending labour laws like factory act 1948, plantation labour act 1951.
- Supporting the industries by sharing the paid maternity leave and extending the same to informal sector, i.e effective implementation of maternity benefit amendment act 2016.

Discuss the major policy initiatives of the government of India for attaining sustainable development goals.

KEY POINTS

- India follows a holistic approach towards its 2030 Sustainable Development Goals (SDGs) by launching various schemes.
- India's SDG Index Score ranges between 42 and 69 for States and between 57 and 68 for UTs.
- Kerala and Himachal Pradesh are the front runners amongst all the States with a score of 69, Chandigarh and Puducherry are the front runners with a score of 68 and 65 respectively among the UT's, the Survey states.

Policy Initiatives for Sustainable Development

- The **Namami Gange Mission**- a key policy priority towards achieving the SDG 6 - was launched as a priority programme with a budget outlay of Rs.20,000crores for the period 2015-2020.
- Major components include sewerage project management, urban and rural sanitation, tackling industrial pollution, water use efficiency and quality improvement, ecosystem conservation and Clean Ganga Fund, among others.
- Further, in order to address the increasing air pollution across the country in a comprehensive manner, Government of India has launched a **National Clean Air Programme** in 2019 as a pan India time bound national level strategy for prevention, control and abatement of air pollution besides augmenting the air quality monitoring network across the country.

National Policy on Resource Efficiency (RE), building upon the existing policies to address multiple sectors should be devised for mainstreaming Resource Efficiency approach in the development pathway for achieving SDGs.

Resource Efficiency can be a major tool to meet the resource needs of the country, at the least possible cost to the environment, the Survey adds.

Principles of Equity and Common but Differentiated Responsibilities and Respective Capabilities

- India's positive engagement at COP 24 negotiations in Katowice, Poland in 2018 resulted in protection of key interests, including recognition of different starting points for developed and developing countries.

Climate Finance and India's Nationally Determined Contribution

- Paris Agreement emphasizes the role of climate finance in strengthening the global response to climate change.



Why the crimes against humanity like genocide have not been made part of India's criminal law? Suggest measures to prevent such crimes in future.

KEY POINTS

- Neither 'crimes against humanity' nor 'genocide' has been made part of India's criminal law, a lacuna that needs to be addressed urgently.
- The case concerned the mass killing of Sikhs during the anti-Sikh riots in 1984 in Delhi and throughout the country.
- The court categorically stated that these kind of mass crimes "engineered by political actors with the assistance of the law enforcement agencies" fit into the category of crimes against humanity (CAH).
- Internationally, CAH are dealt with under the Rome Statute of the International Criminal Court (ICC). They are defined as offences such as murder, extermination, enslavement, deportation, torture, imprisonment and rape committed as a part of "widespread or systematic attack directed against any civilian population, with knowledge of the attack".
- India is not a party to the Rome Statute, which means that it is under no obligation at present to enact a separate legislation dealing with CAH.
- Even after ratification of the Genocide Convention (1948), India has not enacted it in domestic legislation.

Reasons for reluctance

The Indian representatives at the International Law Commission (ILC) have stated that the draft articles should not conflict with or duplicate the existing treaty regimes.

India had objected to the definition of CAH during negotiations of the Rome Statute on three grounds.

- India was not in favor of using 'widespread or systematic' as one of the conditions, preferring 'widespread and systematic', which would require a higher threshold of proof.
- India wanted a distinction to be made between international and internal armed conflicts. This was probably because its internal conflicts with naxals and other non-state actors in places like Kashmir and the Northeast could fall under the scope of CAH.
- Relating to the inclusion of enforced disappearance of persons under CAH. It is pertinent here that India has signed but not yet ratified the UN International Convention for the Protection of All Persons from Enforced Disappearances as it would put the country under an obligation to criminalize it through domestic legislation.

In *State v. Sajjan Kumar*, the Delhi High Court also said that "a familiar pattern of mass killings" was seen "in Mumbai in 1993, in Gujarat in 2002, in Kandhamal, Odisha in 2008, and Muzaffarnagar in Uttar Pradesh in 2013", where the criminals "have enjoyed political patronage and managed to evade prosecution".

It would be advisable for India to show political will and constructively engage with the ILC, which would also, in the process, address the shortcomings in the domestic criminal justice system.

KUSUM scheme of the Centre offer a promising solution for sustainable agriculture. Illustrate

KEY POINTS

Grid-connected solar irrigation offers farmers an additional income source, and if priced attractively, can reduce groundwater withdrawals

The KUSUM scheme has three components:

- Private sector led large-scale solar at sub-station;
- Off-grid solar irrigation and
- Grid-connected solar irrigation.



India cannot address its water and energy economy without addressing agrarian distress and finding non-agriculture income options.

Connecting the solar irrigation pumps to the grid to sell surplus electricity provides an additional source of income for the farmer which has been amply demonstrated by International Water Management Institute (IWMI) through a pilot project in Dhundi (Solar Power as a Remunerative Crop- SPaRC) and NDDB's solar cooperative in Majkuvva (Gujarat).

In a recent pilot launched by Punjab (*PaniBachao, Paisa Kamao* with which authors are closely associated) farmers have demonstrated a saving of about 30 per cent due to day time power supply and ability to optimise use of water.

A recent analysis carried by the authors on a few 11kV electricity feeders of Rajasthan shows that with grid-connected solarisation of pumps:

- farmers would get substantial increase in their income that is climate resilient and counter-cyclical to agriculture, and get daytime, reliable, free power supply which reduces their production risk;
- recurring power subsidy to agriculture would get replaced by one-time capital subsidy; and
- Discoms would get cheap decentralised distributed generation that would reduce their network losses.

During droughts, the farmer can reduce the scale of agriculture and earn more money from the sale of power.

- For grid-connected solar to work, the Discom must keep the feeder “on” during the day as against the current system of supply of four to six hours to contain subsidy
- The government should create a “KUSUM Mission” with adequately funded anchor organisation at the Centre and similar organisation in each participating State.
- These organisations should draw staff from agriculture, water, energy and financial sectors from the public, private, and civil society entities and should be led by a hand-picked leader with a clear target of achieving 20 per cent solar conversion within five years.
- NDDB's expertise in engaging farmers and creating cooperatives would be handy in training these anchor organisations.
- Dynamism of private sector should be tapped to create FPCs. The agriculture distress, water crisis, and fiscal distress caused by the power sector, has set a fertile ground to take advantage of affordable solar and achieve two grand objectives of doubling farm income and improving India's water security.

In spite of being a low cost instrument, nutrition counselling aids government of India in attaining global goals efficiently. Explain

KEY POINTS

- The Integrated Child Development Services (ICDS) scheme is one of the world's largest programmes for early childhood care and development.
- Nutrition and health counselling delivered under the programme's auspices is a low-cost measure that offers lifelong benefits.
- This timely, non-partisan report is by India Consensus, a partnership between Tata Trusts and Copenhagen Consensus, which has undertaken a first-of-its-kind analysis of 100 government programmes.
- These were identified by NITI Aayog for their role in supporting India's efforts to achieve the Global Goals.

Significance of nutrition counselling

- As a behavioural change intervention, nutrition and health counselling is relatively low cost for every person that is reached.



- It's important to note that this programme does not provide food, but instead provides information to the mother, making it more likely that the child will receive more and better food. And that in turn leads to lifelong benefits.(SDG – 1, SDG- 2).
- Improving the nutrition and health outcomes of the children of mothers reached makes this a highly cost-effective intervention.
- Two analyses were undertaken in Andhra Pradesh and Rajasthan, looking at a six-year campaign of nutrition counselling and hand-washing.
- The average cost of counselling sessions for each woman was estimated at ₹ 1,177 and ₹ 1,250 for Andhra Pradesh and Rajasthan respectively.
- Based on previous studies, it is estimated that counselling leads to a 12% reduction in stunting. This leads to better cognitive skills.(SDG – 3)
- With returns like this at stake, there are compelling reasons to look favorably at approaches including nutrition counselling

Deregulating labour law restrictions cautiously can create more jobs and flexible workforce to the emerging economic and industrial scenario. Explain

KEY POINTS

- The compression of 44 labour laws into four 'codes' or broad categories wages, social security, industrial relations and occupational health and safety forms a central aspect of the Centre's labour reforms push since 2015.
- This is not a bad idea, as it simplifies access to numerous provisions of the law by all stakeholders concerned.
- As part of this exercise, the Cabinet recently approved the tabling of the Code on Occupational Safety, Health and Working Conditions Bill in Parliament, which encapsulates 13 laws.
- The Code on Wages has some positive proposals, such as extending the minimum wage law to all activities, not just the 45 'scheduled' ones.
- A lean inspector regime is all very well, but it must monitor workplace safety. The code on industrial relations has evoked strong reactions, as the right to form unions and accord them powers of representation have been severely curtailed. This can be both anti-democratic and economically counterproductive.
- An approach that regards workers as partners in production is likely to promote industrial harmony. Shutting out legitimate avenues of expression can lead to violent outbursts.
- The latest Economic Survey cites studies to observe that a 10 per cent rise in minimum wages leads to a 6.34 per cent increase in employment in rural areas in the case of both men and women, with a statistically insignificant impact in urban areas — questioning the bias against raising wages.
- India's manufacturing is likely to prosper on the back of a skilled and well paid workforce, with a supportive ecosystem in terms of infrastructure and logistics, as Economic Survey 2017-18 suggests.
- Garment wages in not just China, but Vietnam and Indonesia are higher than in India and their yet their exports are growing.
- An approach to labour regulation that cuts out compliance headaches, while improving the lot of the employees should be the guiding principle.



Do India require transformational changes in the manufacturing sector for ensuring maximum outcomes in trade deals? Comment

KEY POINTS

- According to WTO data, trade protectionism has been on the rise both in terms of the number of global trade-restrictive initiations and import coverage of these measures.
- In the current scenario, a two-pronged strategy of raising domestic competitiveness (via a carefully-planned and targeted Industrial Policy) and cushioning the industry from surge in imports due to trade diversion (via carefully-negotiated FTAs) is the need of the hour.
- In this regard, India needs to take a cautious approach towards FTAs.
- A NITI Aayog note ('A Note on Free Trade Agreements and Their Costs', had earlier highlighted that India's combined trade deficit with FTA partners like the ASEAN, Japan and South Korea has almost doubled in the last eight years.
- India's trade deficit with the Regional Comprehensive Economic Partnership (RCEP) bloc of over \$100 billion is almost 64% of its total trade deficit, of which China alone accounts for over 60% of the deficit.
- The biggest driver for trading partner countries to sign an FTA with India is the access to a big and booming consumer market. So it's quite logical for India also to assess what it gets in return.
- Against this backdrop, India must have a plan to deal with the massive support that China offers its industries, leading to overcapacity and price undercutting post-RCEP.
- A clause on provisional safeguard measures should also be introduced. Within the FTA, a provision should be made for safeguard measures to be invoked if a volume or price trigger for the concerned products is reached.
- Given the current state of Indian industry, phased elimination of tariffs is necessary especially with respect to some key manufacturing industries that have long gestation periods until they start running on full capacity.
- An example of this kind of negotiation was the India-Japan FTA where India negotiated for most of its tariff lines under sensitive track (almost 63% under sensitive track, 14% under exclusion).
- Therefore, at least a 15-25 years' tariff elimination schedule should be negotiated for key sectors like chemicals, metals, automobiles, machinery, food products and textiles, which individually contribute more than 5% to India's manufacturing GDP and employment.
- Thus, as suggested, phased elimination of few key manufacturing industries is absolutely essential with respect to China, and last but not the least, a rules of origin criteria that ensures a fair amount of value-addition to determine the source of a product.

Does scrutinizing every bill in the Parliamentary committee provide a platform for comprehensive deliberation in the Parliament? Analyse

KEY POINTS

- Scrutinizing a bill is one of the most important legislative function of the parliament and it has to be done without delays,
- Our Parliament broadly has two forums for discussion. One is on the floor of the House where the debate is televised and MPs take positions based on their parties' stand on a subject.
- The other is the closed-door forum of parliamentary committees. These committees are made up of MPs either from one or both Houses. Their meetings are not televised and the record of the meetings does not reflect the position taken by an individual MP.
- Both these forums have their own advantages and disadvantages. A debate on the floor of the House allows for the cut and thrust of political debate and can be wrapped up in a few hours.



- Debates in committees are more technical but the deliberations require time and stretch for a few months.
- The idea behind the establishment of the committee system in Parliament was to provide a specialized forum for deliberation on national policy issues, which was not constrained by the limited number of sitting days (less than three months a year) of Parliament.
- The main purpose, of course, is to ensure the accountability of Government to Parliament through more detailed consideration of measures in these committees.
- The purpose is not to weaken or criticise the administration but to strengthen it by investing it with more meaningful parliamentary support. The committee, over the years, has worked well in strengthening our legislative process.
- The scrutiny of a bill by a committee usually takes a few months. If a bill is referred to a committee, its legislative journey slows down as it can only be debated after the committee has submitted its report.
- This slow down of legislation has been a source of continued tension between the ruling party and Opposition over the last five years.

A bill can usually be referred to a parliamentary committee in three ways.

1. The minister piloting the bill can seek the permission of the House to refer the Bill to a committee.
2. The Chairman/Speaker has the discretion in referring the bill to a committee. When ministers are trying to build political consensus on a bill, they welcome its referring to a committee.
3. When a bill reaches a House where the government does not have a majority, the MPs of the House can assemble the numbers to move a motion to refer the bill to a committee.

This leads to the government blaming the Opposition for the slowdown, which counters by accusing the government of trying to bulldoze legislation through Parliament. However, there is an additional dimension to the scrutiny of bills by committees. Whenever the government and Opposition see eye to eye on a subject, bills are not referred to a committee.

The robustness in scrutinizing the bills can be ensured by requiring that all Bills be referred to Parliamentary committees. Exceptions to this rule should be strictly defined and the exceptions explained to Parliament.

These mechanisms will ensure that all bills passed by Parliament, irrespective of the party in power, go through a well laid-out process of debate.

8. INTERNATIONAL RELATIONS

The transition from the aspect of Asia-Pacific to Indo-pacific elevate India to a position of prominence in the region, along with various challenges. Elaborate.

KEY POINTS

The Indo-Pacific refers to the Indian and the Pacific Oceans between the east coast of Africa and the American west coast and their several littoral countries and denotes an economic and strategic community.

Significance of Indo-Pacific to India

- It was Australia began reimagining its security and trade policies through a new regional lens in 2011-2012, that Indo-Pacific became its way to position itself to play a larger role in Asia, as an ally of the US and Japan.
- The conception is being driven by the increased economic interaction between South, Northeast and Southeast Asia and the importance of the lines of energy supply (oil trade) to Asia from the Middle East.
- Preference and reliability given by USA to India rather than China, this increased the geo-political stature of India in the region. India was declared as a major strategic defence partner of USA.
- India's robust engagement with the Indian Ocean Rim Association countries.



Challenges

- The adoption of the term challenges India to play a larger role in the region, for instance in the Quad, or the Quadrilateral Security Dialogue that informally brings together for strategic talks and military exercises, the US, Japan, Australia and India.
- India's isolation from China, while aligning with US poses challenge to the neutral stance of India.
- This also impacts the positive projections of India's soft power.

In what ways can India and USA iron out their differences due to the recent trade turmoil that has been putting their strategic partnership at risk? Discuss

KEY POINTS

- **Trade turmoil** has been putting at risk the U.S.'s strategic partnership with India. In the last two months, the U.S. has withdrawn from India preferential tariff benefits under its Generalized System of Preferences (GSP) programme.
- India has imposed retaliatory tariffs in response to tariffs that the U.S. applied last year on steel and aluminium.
- Conflict and disputes are not new to the U.S.-India relationship. They have ranged from trade in jute and almonds in the period of the General Agreement on Tariffs and Trade to poultry and solar panels under the World Trade Organization (WTO).
- The U.S. is India's single most important export market; India is a huge and growing market for U.S. investment and exports.

Resolving differences

- A starting point would be to empower the Office of the U.S. Trade Representative and the Ministry of Commerce and Industry to develop some problem-solving cooperative efforts under the existing Trade Policy Forum on issues such as digital trade, regulatory coherence, and intellectual property rights, matching their earlier successes on the WTO Trade Facilitation Agreement.
- Utilizing bilateral investment initiative of India- US to enhance the trust deficit between the countries.
- USA can use special 301 report to remove the obstacles that affect the trade relationship with India.
- India needs to use its soft power matrix tool to increase the confidence building measures with USA.
- Frequent diplomatic engagement constructively at the executive level is mandatory to iron out the differences between the countries.
- This future work would be better advanced if India created a new career trade staff that reports directly to the Prime Minister's Office.
- The U.S. administration has experienced trade staff, even at senior levels, who build negotiating skills over their careers and relationships of rapport and trust with their foreign counterparts. India could better serve its trade interests with the same kind of approach.
- This is a scenario that could evolve into a new relationship of common purpose on trade.
- However, even this scenario is a limited one; the U.S.-India strategic partnership deserves higher aspirations on trade. The goal should be a more comprehensive platform for expanding trade and investment through the progressive elimination of trade and investment barriers, from protectionist regulatory measures to tariffs and restrictions on trade in services.



What is the tension between the U.S. and the Iran in relation with nuclear use? Assess the economic consequences at the global level resulted by these differences.

KEY POINTS

Tension between Iran and USA

- Iran's announcement that it had breached the limit of the 300 kg of enriched uranium stockpile that was allowed by the JCPOA. It appears Iran's patience is wearing out.
- These steps come in the wake of increasing tensions between the U.S. and Iran following the shooting down of an unmanned U.S. drone over the Strait of Hormuz.
- The mayhem could have spread to the entire West Asian region with Iran attacking strategic American, Saudi and Emirati targets around the Gulf and attempting to block the Strait of Hormuz in an effort to choke off the supply of Gulf oil to the international market.
- Further, Iranian allies in Lebanon, Iraq and Syria might have launched attacks against American troop concentrations as well as against U.S. ally Israel, thus inviting further American and Israeli counter-retaliation and dragging the U.S. into its third major war in the region.
- The downward spiral in U.S.-Iran relations started with Mr. Trump's decision (announced in May 2018) to withdraw from the JCPOA against the advice of the U.S.'s European allies France, Germany, and the U.K. that are parties to the deal.
- The US administration followed it up with the re-imposition of stringent economic sanctions against Iran that were being gradually dismantled following the 2015 nuclear deal. These included sanctions against foreign companies doing business with Iran and against countries buying Iranian oil.

Economic consequences

- Fluctuation in oil prices at the international due blockage in Strait of Hormuz.
- This leads to gradual slow down in global growth rate, and affects the trade interest of other countries due to process of globalization.
- Subsequently this raises the problem of protectionism by different nations causing the instability in co-operation of nations at various levels.
- For India, economic sanctions of USA on Iran, withdrawal of Global system of preferences increase the component of imports and affects exports causing trade deficits.
- Peace process like Raisinia dialogue, heart of conference will get impacted due to tensions between Iran and USA.

By becoming a non-permanent member of United Nations Security Council, India has a great opportunity in creating secure external environment for the global prosperity. Elaborate

KEY POINTS

- India's singular objective as a non-permanent member of the United Nations Security Council (UNSC) in 2021-22 should be to help build a stable and secure external environment.
- In doing so, India will promote its own people's prosperity, regional and global security and growth, and a rule-based world order.
- India will have to increase its financial contribution, as the apportionment of UN expenses for each of the P-5 countries is significantly larger than that for India.
- Even Germany and Japan today contribute many times more than India. Although India has been a leading provider of peacekeepers, its assessed contribution to UN peacekeeping operations is minuscule.



- At a time when there is a deficit of international leadership on global issues, especially on security, migrant movement, poverty, and climate change, India has an opportunity to promote well-balanced, common solutions.
- India must help guide the Council away from the perils of invoking the principles of humanitarian interventionism or 'Responsibility to Protect'.
- Given the fragile and complex international system, which can become even more unpredictable and conflictual, India should work towards a rules-based global order. Sustainable development and promoting peoples' welfare should become its new drivers.
- India should push to ensure that the UNSC Sanctions Committee targets all those individuals and entities warranting sanctions.
- Having good relations with all the great powers, India must lead the way by pursuing inclusion, the rule of law, constitutionalism, and rational internationalism.
- India should once again become a consensus-builder, instead of the outlier it has progressively become.
- A harmonised response is the sine qua non for dealing with global problems of climate change, disarmament, terrorism, trade, and development. India could take on larger burdens to maintain global public goods and build new regional public goods.
- For example, India should take the lead in activating the UNSC's Military Staff Committee, which was never set into motion following the UN's inception. Without it, the UNSC's collective security and conflict-resolution roles will continue to remain limited.
- Finally, India cannot stride the global stage with confidence in the absence of stable relations with its neighbours. Besides whatever else is done within the UN and the UNSC, India must lift its game in South Asia and its larger neighbourhood.

India's focus on Mozambique outlines the importance of Mozambique channel in strengthening the Indian Ocean Region. Analyse

KEY POINTS

- Defence minister's visit to Mozambique this week is a good moment to reflect on the growing significance of the East African coast and the islands off it for the geopolitics of the Indo-Pacific.
- Mozambique, Madagascar and Comoros together constitute the Mozambique Channel, a critical waterway in the Indian Ocean, that has shaped the strategic evolution of the Indian Ocean over the centuries.
- The areas are rich in methane hydrates, alternative source of energy, rich in fish biodiversity attracts major powers.
- Since then, the Mozambique Channel had been a major choke point in the sea lines of communication from Europe to India and further east.
- The control of the Mozambique Channel and the Western Indian Ocean islands became a major element of the extended rivalry between the major powers.
- The rise of China and East Asia as well as the slower emergence of India have deepened economic interdependence between Asia, the Middle East and Africa.
- The sea lines of communication between the east coast of Africa and the Far East have once again acquired some weight and importance.
- As a rising China projects its naval power to the west of the Malacca Straits, competition with the established Indian Ocean powers like the US, UK, France and India has become inevitable.



- As old and new powers jockey for influence in the Indian Ocean littoral, every little island is becoming a contested terrain.
- Defence Ministers' visit to Mozambique offers an opportunity for Delhi to review the progress made in implementing the Indian Ocean Strategy announced during his visit to some of the island nations in 2015.

G.S PAPER III

9. AGRICULTURE

What is meant by Cellular agriculture ? How does it help in sustainability of food production in India? Explain

KEY POINTS

Cellular agriculture focuses on the production of agriculture products from cell cultures using a combination of biotechnology, tissue engineering, molecular biology, and synthetic biology to create and design new methods of producing proteins, fats, and tissues that would otherwise come from traditional agriculture.

Sustainability of food production

- The appeal of cellular agriculture is a combination of environmental, ethical and anti-Malthusian considerations.
- Proponents show figures of how much land, foodgrain, water, and carbon emissions it takes to produce a kilogram of meat and argue that these figures will be around 70% lower with cellular agriculture.
- Much of this is the rising part of the hype cycle, but unlike conventional animal husbandry that has pretty much reached the limits of its efficiency, cellular agriculture has the potential to improve its resource intensiveness over time. If it can achieve scale, it can help make global food production more sustainable than it is now.
- Further cellular agriculture help reduce cumulative carbon emission, reduce the usage of water in animal husbandary.
- For this reason alone, India cannot afford to ignore the industry's potential to become an inexpensive source of high-quality protein for its population.
- The Union government charged Hyderabad-based Centre for Cellular and Molecular Biology with the goal of producing it on a commercial scale in five years.
- The Maharashtra government has approved a collaboration between the Institute of Chemical Technology and the Good Food Institute, a non-profit organization, to carry out research and development in cellular agriculture.
- Even so, India has an opportunity to become a major player in cellular agriculture. We have the ingredients to start accumulating intellectual property and global production capabilities, but the sector needs greater public investment in research and development, as well as private investment in entrepreneurship.
- The government should hold firm on its positive attitude towards the science and the industry. The regulatory mindset ought to be to keep the doors open, but with ever-vigilant safeguards.



Why desert locust plague in India is considered a threat to food security and crop health? Discuss the measures taken by the government in controlling it.

KEY POINTS

- The magnitude of the damage and loss caused by the locusts is very gigantic beyond imagination as they have caused the starvation due to its being polyphagous feeder, and on an average small locust swarm eats as much food in one day as about 10 elephants, 25 camels or 2500 people.
- Locust do cause damage by devouring the leaves, flowers, fruits, seeds, bark and growing points and also by breaking down trees because of their weight when they settle down in masses.
- This in turn affects the crop productivity and causes food insecurity

Measures taken

The following steps have been taken to deal with the problem of Desert locust:

- a total of 8041 hectares have been treated against the said infestation by spraying insecticide (Jaisalmer - 7354 hectares, Barmer - 447 hectares, Jalore - 100 hectares and Banaskantha - 140 hectares).
- The staffs of locust warning organization / circle offices are undertaking regular surveys and control operations to check desert locust.
- An Additional number of technical officers/officials of Directorate of Plant Protection Quarantine and Storage have been deployed in the various circle office for assistance in control and survey works. In addition, senior officers of the Department are camping in the infested area and supervising control operations.
- Further, the State Agriculture Department of Rajasthan has posted sufficient staffs including Agriculture Supervisor, Agriculture officers & Assistant Agriculture Officers to various offices in the Jaisalmer districts for assistance in locust control works. The State Government has constituted various teams comprising senior officers for regular assessment and monitoring of locust situation.
- Various awareness programs have been organized by the various circle offices for state agriculture officers and farmers.
- Regular Liaison is being maintained with the Forest Department, Border Security Force, State Agriculture Department, District administration and representatives of Gram Sabha/Panchayat.
- Locust Warning Organization (LWO) established in 1939, every year LWO undertake Locust surveillance & monitoring in SDA, Coordinate other stake holders on locust situation, issuing locust situation Bulletins, organising Border meetings and conducting Farmer Field Schools (FFSs) programme in LWO/ LCO's in Rabi season. Besides undertake control operations during locust upsurge/incursion.

In context of regulating the urea industry, environment aspects outweigh the fiscal reasons. Elaborate

KEY POINTS**Fiscal reasons**

- Direct benefit transfer to farmers involves use of incessant application of urea.
- Huge subsidy allocation constraints the spending of the government in other areas.

Environmental reasons

- The sector has slipped on its water consumption and water-pollution parameters. Its water consumption is high and can be reduced by at least one-third by using recycling/reuse technologies.
- Another major concern is health and safety practices in older plants. The urea sector handles dangerous chemicals, like ammonia.



- No incentives are offered for controlling water consumption and environmental pollution, companies have shied away from investing in pollution-control measures or in technologies to reduce water use.
- The biggest issue is the very future of urea fertiliser itself. The industry has a significant role to play in addressing three major environmental issues: nitrogen pollution, ozone layer depletion, and climate change.
- Urea production is completely dependent on fossil fuels and, hence, contributes to greenhouse gas (GHG) emissions. Nitrous oxide (N₂O) emitted from agricultural fields due to the use of urea is also a potent GHG and an ozone-depleting substance (ODS). Its GHG potential is 300 times that of CO₂ and its ozone-depleting potential is similar to that of many hydrochlorofluorocarbon refrigerants. N₂O is now the largest ODS emitted through human activities.

Measures to reduce impact of urea

- Indian agriculture needs to graduate from the present practice of bulk application of urea to a more precise supply of required nutrients.
- The production of nitrogen fertilisers will also have to shift from fossil fuels to renewables. We have the technology to produce nitrogenous fertilisers without using fossil fuels. The falling costs of renewable energy will make this an economically feasible option.
- Decontrol will make the industry competitive and bring innovations in production and products.

10. INDIAN ECONOMY

What is meant by Development impact bond? Does it remain as a strong financial model for socio-economic upliftment for developing countries like India? Analyse.

KEY POINTS

- Development Impact Bonds (DIBs) finance development programs with money from private investors who earn a return if the program is successful, paid by a third-party donor.
- The outcomes to be measured are agreed upon at the outset and independently verified.
- With greater focus on outcomes instead of inputs, DIBs create space for more innovation, local problem-solving, and adaptation.

Analysis of Development impact bond

Development Impact bonds offer some valuable positives :

- These include unlocking new funding streams and the privatization of risks for public benefits.
- DIBs maintain a sharp focus on outcomes, based on which payments are made to investors, these instruments also up the stakes in terms of programme implementation, performance management, and monitoring.
- Britain has launched recently new development impact bond for children education in India.
- This helps achieve transparency and forces programmes to adapt to changing circumstances, while continuously learning from the ongoing evaluation exercises and results.

DIBs poses challenges.

- There is no evidence that SIBs/DIBs are a more efficient way of financing development. Their value for money vis-à-vis other forms of financing is not established, but only a matter of theory so far.
- DIBs are results-based finance mechanisms and the donors/philanthropists only pay for successful results. If the outcomes are not achieved, the funders do not pay.



- DIB focus on outcomes, on which financial returns are contingent, spurred optimism that new innovations and models for delivery will be tried to achieve these outcomes, most programmes funded by DIBs use tried and tested models for service delivery.
- The ecosystem is still small and closed to an extent, comprising more or less the same set of donor agencies, foundations and sometimes governments. There is little evidence of more and fresh investment getting crowding in.
- The model, while worth trying out and too new to criticize, tends to give precedence to funders and intermediaries in setting the terms of intervention.

What is meant by the concept of asset recycling? How does it help in imparting stimulus to the growth trajectory of Indian economy? Explain

KEY POINTS

Asset Recycling, a concept that helps modernise existing infrastructure while providing government with upfront capital to support a whole new generation of infrastructure.

Imparting stimulus to the growth of Indian economy

- This idea also includes disinvesting government stakes in companies, but is not just limited to that, includes the selling/auctioning of several kinds of government owned assets such as roads, ports, airports etc.
- The proceeds from these sales can be used for the creation of new assets — new roads, new ports etc which can be recycled again, when completed.
- As such, the same pot of money is recycled several times over, without endangering the fiscal deficit, and yet upgrading India's infrastructure.
- Many long-term investors, foreign and domestic, such as pension funds and insurance companies may be interested in this.
- Several investors are averse to construction risk (for instance, building a road), but do not mind the operating risk (for instance, tolling and maintaining the road).
- Here the government constructs and sells off to the private sector thereafter, key difference from Public private partnership model.
- India's best bet to raise growth is by reviving the investment cycle. India's best bet to raise private investment (which makes up 75 per cent of all investment) is by creating a conducive environment, by stepping up public investment in a fiscally responsible way by adopting “asset recycling”.

The progress of the Advanced Price Agreement scheme strengthens the Government's resolve of fostering a non-adversarial tax regime. Comment

KEY POINTS

An APA is an agreement between a taxpayer and the tax authority determining the Transfer Pricing methodology for pricing the tax payer's international transactions for future years. An APA provides certainty with respect to the tax outcome of the tax payer's international transactions.

An APA can be one of the **three types** – unilateral, bilateral and multilateral.

- A Unilateral APA is an APA that involves only the taxpayer and the tax authority of the country where the taxpayer is located.
- Bilateral APA (BAPA) is an APA that involves the tax payer, associated enterprise (AE) of the taxpayer in the foreign country, tax authority of the country where the taxpayer is located and the foreign tax authority.



- Multilateral APA (MAPA) is an APA that involves the taxpayer, two or more AEs of the tax payer in different foreign countries, tax authority of the country where the taxpayer is located and the tax authorities of AEs.

Significance:

- The Indian APA programme has been appreciated nationally and internationally for being able to address complex transfer pricing issues in a fair and transparent manner.
- APAs met an overwhelming response with an increase in the number of applications filed, from 146 in FY13 to a cumulative 1,145 applications as of March 2019, with the CBDT concluding 271 APAs (including 31 bilateral APAs) and the remaining awaiting resolution.
- APAs concluded by the CBDT encompass a range of issues, such as royalties, intra-group services, guarantee fees, economic adjustments and so on. The US, the UK, Singapore, Australia and Germany are prominent counterparty jurisdictions wherein majority of APAs have been concluded.

What is meant by Public Good? Should the data of citizens need to be placed under the public good by Government of India? Explain.

KEY POINTS

- A public good is a product that one individual can consume without reducing its availability to others and from which no one is deprived.
- Examples of public goods include law enforcement, national defense, sewer systems, and public parks.

Data of citizens as public good

- Creating data as a public good, especially of the poor and in the social sectors of the country, to unlock its benefit for larger betterment of Society. This is very important as private sector may not invest in harnessing data where it is not profitable.
- Government already holds a rich repository of administrative, survey, institutional and transaction data about citizens, but these datasets scattered across various ministries.
- The government can deliver a better experience to citizens by bringing disparate datasets together.
- Utilizing the information embedded in these distinct data sets would inter-alia enable government to **enhance ease of living for citizens**, enable truly evidence-based policy, improve targeting in welfare schemes, integrate fragmented market, bring greater accountability in public services and generate greater citizen participations in governance.
- It is very important to consider the **privacy implications** and inherent fairness of data being used, data are generated by the people, and should be used for the people. Care must also be taken to not impose the elite's preference of privacy on the poor, who care for a better quality of living the most.
- It needs to be ensured that the **socially optimum amount of data is harvested** and used, the government needs to step in, either by providing the data itself or correcting the incentive structure faced by the private sector.
- Given that sophisticated technologies already exist to protect privacy and share confidential information, governments can create data as a public good within the **legal framework of data privacy**.
- The data system envisioned in the Economic Survey involves predominantly data that people share with government bodies with fully informed consent or the data that is legally sanctioned to be collected by the state for an explicit purpose.
- Through Aadhaar, India has been at the forefront of the data and technology revolution that is unfolding. Going forward, the data and **information highway** must be viewed as equally important infrastructure as the physical highways.



- Such a stance can help India leapfrog to utilize the benefits of technological advances for the welfare of its people.

The size of the ageing population in India poses newer challenges in the near future for the economy. What should the policy priority, in this context, be? Analyse.

KEY POINTS

- Huge losses of output inherent in the incapacity of the aged increasingly vulnerable to non-communicable diseases (e.g. diabetes, cardiovascular diseases, cancer) are avoidable not just through higher outlays on health, but also through a reorganization of the health system with much greater emphasis on primary medical centres or PMCs.
- Focus on the aged (60 years and above), with their growing vulnerability to NCDs and disabilities (such as the inability to walk and dress, apart from speech and vision impairment), and caste and education barriers impeding their employment.
- The analysis is based on a nationwide panel survey, the India Human Development Survey 2015 (IHDS 2015), covering 2005 to 2012.
- As expected, the oldest, aged 71 years or more, were most likely to be not employed and less likely to be just employed, employed part-time and full-time. So, old age acts as a barrier to part-time and full-time employment.
- Greater state affluence is associated with lower probabilities of being not employed and just employed, and significantly higher probabilities of part-time and full-time employment. Thus, state affluence through growth has substantial employment potential.
- More attention must be paid to policies designed to boost aggregate demand and provide better healthcare for the aged through Ayushman Bharat Yojana (ABY), with due emphasis on integrated medical care through PMCs. Astonishingly, the ABY, despite its transformative claims, was mentioned only once.
- Emphasis on maintenance and welfare of parents and senior citizens act 2007 to be enforced for the protection of old aged people.

Reviving private investment is key to achieving India's vision of a \$5 trillion economy. How should taxes and revenues be balanced in this regard? Discuss.

KEY POINTS

Both the budget and the Economic Survey focused on revival of private investment to ensure sustained long-term growth. Thus, there is strong case for further and aggressive reduction in tax rates on the grounds of revival of investment, and helping India become a \$5 trillion economy.

Balancing taxes and revenues

- Competitiveness is affected by tax rates, interest rates, exchange rates, and labour costs.
- In order to improve their competitiveness, countries can reduce its cost of capital, make labour more competitive.
- Due to reforms by RBI, there has been considerable improvement in communication and a gradual lowering of policy rates, but this has also been accompanied by a more than equal lowering of inflation, that is, the real repo rate has yet to move below 2.3 per cent.
- The sovereign bond issue will help, but not a quick acceleration in GDP growth.
- Exchange rate change is no longer operational, labour codes are too slow to change, and monetary policy is sluggish in its operation, and impact.
- The only real growth option for Indian policymakers — cut tax rates to internationally competitive levels.



- Ostensibly, tax rates are need to be set at optimal level to maximize tax revenue — and tax revenue depends on both income and tax compliance.
- Tax compliance can either be considered as more firms filing taxes or more firms revealing a closer approximation to true income.
- Improving compliance alone can ensure greater resource mobilization through taxation — and without increasing the tax rate (and may indeed occur if the tax rate is reduced).
- The non-linear relationship between tax rate and tax revenue (as per cent of GDP) is revealed by the famous Laffer curve – with zero tax rates, you get zero tax revenue and with 100 per cent tax rate, you get zero tax revenue.
- In India, we tax at 44 per cent to get 3.5 per cent of tax revenue (as percentage of GDP). As per Laffercurve , the tax rate level at which revenue is maximized is around 23 per cent — half India's tax level.

The burden of Merchant Discount Rate is an obstacle to the promotion of digital payment ecosystem. Comment

KEY POINTS

- In recent budget, the government has mandated that neither the customers nor the merchants will have to pay the so-called Merchant Discount Rate (or MDR) while transacting digital payments.
- Of course, it is good news for both customers and merchants because their costs of digital payments come down. However, the payment services providers are now complaining.
- Merchant Discount Rate (alternatively referred to as the Transaction Discount Rate or TDR) is the sum total of all the charges and taxes that a digital payment entails. For instance, the MDR includes bank charges, which a bank charges customers and merchants for allowing payments to be made digitally.
- Similarly, MDR also includes the processing charges that a payments aggregator has to pay to online or mobile wallets or indeed to banks for their service.
- If customers don't pay and merchants don't pay, some entity has to pay for the MDR costs, RBI and Banks will absorb these costs from the savings that will accrue to them on account of handling less cash as people move to these digital modes of payment.
- Contrary to public perception, the MDR has not been made zero. However, if banks pay for the MDR it will adversely their likelihood to adopt the digital payments architecture.
- Moreover, many payments providers apprehend that the banks will find a way of passing on the costs to them. In turn, this will negatively impact the health of a sector that needs nurturing.

The inclusion of non-tax proposals in the Finance Bill 2019 undermines the legislative role of Parliament in ensuring transparent lawmaking process. Substantiate

KEY POINTS

- The rules of procedure of the Lok Sabha refer to the Finance Bill as a Bill which is introduced each year to give effect to the financial proposals of the government for the next financial year.
- It ordinarily contains the details of the changes in the tax rates and other consequential changes in the tax laws of the country.
- However, the Finance Bill of 2019, in addition to amending the tax laws, also amends several other laws unrelated to taxation in the country.
- For example, it amends the Reserve Bank of India Act, the National Housing Bank Act and the Insurance Act to change the net worth requirements of non-banking finance companies, housing finance companies and foreign insurance companies engaged in reinsurance.

- In addition, it proposes amendments to enable RBI to take measures for the management of NBFCs.
- The 2017 Finance Bill, changed the composition of 19 tribunals such as the Securities Appellate Tribunal, the Telecom Disputes Settlement and Appellate Tribunal, the National Green Tribunal and repealed seven other authorities including the Competition Appellate Tribunal.
- The Finance Bill, 2018, had 218 clauses, half of which were matters unrelated to the imposition of taxes.
- The Finance Bill, which falls in the category of a Money Bill, does not go through a similar process. For one, it is the exclusive preserve of the Lok Sabha.
- The Rajya Sabha can only make suggestions for amending the Finance Bill.
- Also, its suggestions are not binding on the Lok Sabha. In addition, Finance Bills do not go through the detailed scrutiny of a Parliamentary Standing Committee.
- Which means that if a Finance Bill contains provisions other than those related to taxation they escape the scrutiny process of Parliament.
- Structural changes in our legal system, which are unrelated to taxation, should only be done through the established mechanism of scrutiny and deliberation by both houses of Parliament.
- Bypassing of this process results in such changes getting embroiled in litigation. Currently, the Supreme Court is hearing several petitions that question the constitutional validity of changes made to the structure and composition of tribunals as was done by the Finance Bill, 2017.
- More importantly, when substantive structural and regulatory changes to laws are included in the Finance Bill, it sets a bad precedent and undermines the role of Parliament in ensuring that the lawmaking process is rigorous as well as consultative.

Examine the factors which enable India to regain some demographic balance for the betterment of the society.

KEY POINTS

- The latest data from the Sample Registration System shows that Indians are planning smaller families but also prefer fewer daughters.
- The upshot is that India's total fertility rate (TFR) or the number of children expected to be born to a woman during her reproductive period has fallen from 2.3 in 2016 to 2.2 in 2017, with both rural and urban India registering a steady fall.
- This is marginally more than the World Health Organization's recommended replacement-level fertility of 2.1 children per woman; in urban India, in fact, the TFR is well below this average, indicating improving education levels and access to health among urban Indian women.
- As a result, projections for India's population overtaking China have been postponed by five years to 2027.
- After steadily improving for two trienniums (three-year periods) between 2009-11 and 2011-13, the sex ratio has plummeted from its peak of 909 females per 1,000 males to 896 in the triennium ending 2017.
- As before, it is the relatively prosperous states that have recorded the worst fall: Telangana, Delhi, and Kerala join backward Bihar in the top rankings.
- Both the urban and state-wise data confirm the established trend that sex selection is being practised with greater frequency among affluent Indians who have the wherewithal to use technology (illegal, legal, or semi-legal) to ensure the delivery of a male child.
- All of this suggests the need to augment such creative missions as BetiBachao, BetiPadhao, designed to alter behavioural models by incentivising the birth of the girl child. BetiBachao, BetiPadhao was launched in 2015 in Panipat, Haryana, the region with the country's worst sex ratio.



- But the scheme is targeted at poorer people, for whom a girl is traditionally seen as a cost and burden. It is unclear why richer, more educated Indians should harbour what the Economic Survey calls a “meta preference for boys”.
- Infant mortality rate and Maternal mortality has to be curtailed for better demographic balance.
- These biases have deep social and economic roots and there is an urgent need for messaging targeted at more sophisticated audiences so that India is able to regain some measure of demographic balance.

Explain the reforms that are needed in primary sector to attain the goal of \$5 trillion-economy by 2024.

KEY POINTS

Reforms needed

- Investment is the key to unlocking the potential of a developing economy. However, the myopic policy regime in the past several decades has resulted in sluggish investment growth in the farm sector.
- Therefore, strengthening the sector with an enabling investment package (both public and private) is critical.
- Investment should touch segments such as agro-processing, and exports, agri-startups and agri-tourism, where the potential for job creation and capacity utilisation is far less.
- Integrating the existing tourism circuit with a relatively new area of agri-tourism, where glimpses of farm staff and farm operations are displayed to attract tourists, would help in boosting the investment cycle and generate in-situ employment.
- Investment needs to be driven to strengthen both public and private extension advisory systems and the quality of agri-education and research through collaboration and convergence. It would also serve as a stage to demonstrate resource conservation and sustainable use through organic, natural and green methods, and also zero budget natural farming.
- India has the highest livestock population in the world, investment should be made to utilise this surplus by employing next-generation livestock technology with a strong emphasis not only on productivity enhancement but also on conservation of indigenous germplasm, disease surveillance, quality control, waste utilisation and value addition. This would lead to a sustained increase in farm income and savings with an export-oriented growth model.
- Renewable energy generation (using small wind mill and solar pumps) on fallow farmland and in hilly terrain would help reduce the burden of debt-ridden electricity distribution companies and State governments, besides enabling energy security in rural areas.
- Farm business organisation is another source of routing private investment to agriculture. Linking these organisations with commodity exchanges would provide agriculture commodities more space on international trading platforms and reduce the burden of markets in a glut season, with certain policy/procedural modifications.
- Finally, data is the key driver of modern agriculture which in turn can power artificial intelligence-led agriculture, e-markets, soil mapping and others. Currently, there are issues of enumeration, maintenance and accessibility to help maintain agri-data on various fronts.



Does the idea of transferring the surplus capital from RBI to central government is a better solution to ease its fiscal pressure? Comment

KEY POINTS

- The Economic Survey in 2016 suggested using the central bank's surplus capital for recapitalising public sector banks.
- Naturally, the government would want a higher transfer because it will help ease some fiscal pressure and increase expenditure in the short run.
- The transfer of capital does not create new revenue. It will shrink the size of the RBI's balance sheet.
- As a result, the central bank would hold fewer securities, which will affect the future flow of income.
- Transfers like these can erode confidence in fiscal management.
- It is important that the central bank has enough capital to appropriately implement monetary policy and adjust to foreign exchange movement, among other things.
- Since the transfer from the central bank will, at best, be only a short-term relief, it should be used judiciously to improve the productive capacity of the economy.
- Transferring capital in a phased manner will allow the government to channelize funds more efficiently. The government would do well to not use this for day-to-day expenses or revenue expenditure because it will not be permanent and affect the future flow of income.
- At a broader level, the demand for higher transfer from the central bank, and the fact that a committee is addressing the issue, underlines the fiscal stress.
- For better fiscal outcomes, the government should evaluate its revenue and expenditure more realistically. Depending on transfers from the central bank or other regulators, higher tariffs on imports, or increasing the marginal rate of income tax for a small minority of rich taxpayers will do more harm than good in the long run.

Sovereign bonds act as better financial instrument to finance fiscal deficit of the country. Do you agree with this view? Analyse

KEY POINTS

- Indian government would start raising a part of its gross borrowing programme in external markets in external currencies.
- The issuer of a bond promises to pay back a fixed amount of money every year until the expiry of the term, at which point the issuer returns the principal amount to the buyer. When a government issues such a bond it is called a sovereign bond.
- Some of the best known sovereign bonds are the Treasuries (of the United States), the Gilts (of Britain).
- India's sovereign bonds, that will be floated in foreign countries and will be denominated in foreign currencies, the initial loan amount and the final payment will be in either US dollars or some other comparable currency.

Sovereign bonds viable one

- Possibly the biggest of these is that the Indian government's domestic borrowing is crowding out private investment and preventing the interest rates from falling even when inflation has cooled off and the RBI is cutting policy rates.
- If the government was to borrow some of its loans from outside India, there will be investable money left for private companies to borrow; not to mention that interest rates could start coming down.
- In fact, the significant decline in 10-year G-sec yields in the recent past is partially a reason.



- There is scope for the Indian government to raise funds this way without worrying too much about the possible negative effects.
- A sovereign bond issue will provide a yield curve — a benchmark — for Indian corporates who wish to raise loans in foreign markets. This will help Indian businesses that have increasingly looked towards foreign economies to borrow money.

Risks involved

- The volatility in India's exchange rate is far more than the volatility in the yields of India's G-secs (the yields are the interest rate that the government pays when it borrows domestically).
- This means that although the government would be borrowing at "cheaper" rates than domestically, the eventual rates (after incorporating the possible weakening of rupee against the dollar) might make the deal costlier.
- Borrowing outside would necessarily reduce the number of government bonds the domestic market will have to absorb. That's because if fresh foreign currency comes into the economy, the RBI would have to "neutralise" it by sucking the exact amount out of the money supply.
- This, in turn, will require selling more bonds. If the RBI doesn't do it then the excess money supply will create inflation and push up the interest rates, thus disincentivising private investments.
- Lastly, based on the unpleasant experience of other emerging economies, many argue that a small initial borrowing is the thin end of the wedge. It is quite likely that the government will be tempted to dip into the foreign markets for more loans every time it runs out of money.
- At some point, especially if India does not take care of its fiscal health, the foreign investors will pull the plug on fresh investments, creating dire consequences for India.

In what ways comprehensive care economy policy strengthens the macroeconomic framework of the country? Explain

KEY POINTS

- The 'care economy' is statistically invisible. The lack of a comprehensive care economy policy is the single-most significant reason for the falling rate of female labour force participation.
- If we want to reap the demographic dividend before it vanishes, designing a comprehensive care economy policy in India should be the policy mantra.
- This policy is relevant from an 'efficiency and equity' perspective and also from 'human rights' perspective.
- Care economy is core to macroeconomic policy frameworks. The macro policy decisions say, fiscal austerity measures—impact men and women differently.
- For instance, if the fiscal austerity is by reducing the health spending in a country, the reduction in hospitalisation days or in-patient days can directly impact women as they are the primary caregivers in a household.
- Women, thus, bear the brunt of macroeconomic policy decisions. At the same time, more often, macro policy is not designed to integrate household caregiver's perspectives, which otherwise needs an enormous attention as we cannot take the support from the care economy system as infinite.
- India has designed a fully-paid childcare leave policy for two years—a leading example of such policies in the world. But a 'comprehensive care economy policy' is absent in India.
- In Canada, a 'compassionate care leave' policy has been introduced to take care of one's ailing relative, up to six months in discrete or in continuum.
- This leads to the effective human capital formation.



- Such policies can help the primary caregivers, often women, not to leave workforce when their parent or spouse or a close relative falls ill. If public policy takes it for granted (increasing trend of women leaving the labour market), they are missing the big picture.
- Women face huge challenges to earn a living and live peacefully during retirement years. In India, especially when social security benefits are not well-designed, the permanent or temporary exit of a woman from the job market to take care of small child or an elderly parent enormously reduces her earning potential and her savings for retirement.
- Kerala is almost there to design a care economy support structure by the government, which can provide highly-efficient caregivers to the households. This authentic care economy support by the government can increase economic growth.
- This helps states to perform well in percapita income and significant distribution of income to the households, thereby combating poverty in multiple dimensions.
- However, a public finance revolution in India to support a comprehensive care economy policy is what is needed.

Government of India need better ways to utilize investor education protection fund (IEPF) effectively for promoting financial literacy. Explain

KEY POINTS

- SEBI manages its own Investor Protection and Education Fund carved out of its profits and sums forfeited from de-recognised stock exchanges.
- As per its last published accounts for FY17, it managed Rs 108 crore and spent roughly Rs 20 crore on investor education.
- Every stock exchange is required to create an Investor Protection Fund out of turnover fees and fines levied from members.
- While their primary purpose is to compensate retail investors after broker default, surpluses go into investor education.
- NSDL and CDSL chip in with their own Investor Protection Funds, contributing 5 per cent of their profits and penalties from market participants.
- With very little financial information about these funds in the public domain, it is hard to say how much money they're sitting on, or how they spend it.

Better ways of utilizing the fund

- Financial market regulators including RBI, IRDAI and PFRDA need to get together with the Ministry of Corporate Affairs to see how all the publicly-funded investor education initiatives can be pooled together and monitored, so that there is little wastage and duplication of efforts. SEBI could be a good choice to oversee this money, as it has been a more efficient user of it than the MCA.
- Once this is done, with RBI's active collaboration, it can work to broad-base the current IAPs and print content to include explainers on interest rates, loan pricing, personal finance, insurance, banking or digital transactions, across multiple Indian languages.
- Investor education initiatives went beyond creating generic content designed to induce the novice investor into taking his first step into equities or funds.
- For stock investors, creating a free, easily searchable database of company annual reports and quarterly financials will be an immensely helpful tool.
- Stock exchanges on their part, must be induced to put basic information about indices and trading activity in the public domain, instead of trying to monetise every scrap of data.



- Finally, all entities collecting retail money in the name of investor education must be mandated to put their latest audited accounts in the public domain.

Creating a security-specific fund by 15th finance commission affects the balancing wheel of fiscal federalism. Analyse

KEY POINTS

- In a recent decision by the Union Cabinet, the terms of reference of the Fifteenth Finance Commission were amended, so that the needs of defence and internal security be set aside from regular expenditure.
- To address serious concerns regarding allocation of adequate, secure and non-lapsable funds for defence and internal security of India.
- This has correctly been seen as an attempt by the Centre to occupy more fiscal space. Article 280 of the Constitution requires the Commission to be the overall judge of how taxes are distributed, and Article 266 implies that the Consolidated Fund of India is a shared pool for all national priorities.
- Setting aside a fund purely for defence, which is the natural end point of the Cabinet's demand from the Commission, would act against this basic constitutional principle.
- It would sequester defence spending and give the Centre more space to spend on its own political priorities at the expense of the states, coming at a time when there is a underperformance of the goods and services tax.
- No one item on the Central List of the Constitution should be given priority over the State List and the Concurrent list in this manner. It is up to the Union government to decide how much it sets aside for defence from the revenue available to it.
- If it has not been doing so enough in recent years, it should reassess its overall expenditure, and not ask for the pool of taxes available for division be altered at the expense of states that have been more fiscally responsible.
- The carve-out might also include spending on internal security. The paramilitary forces in India have been an exception to recent trends, growing in size, number, and expense.
- The Commission would do well to recognise the extreme political danger that a carve-out at the request of the Centre for internal security and defence poses to the federal structure of the country.
- If such a security-specific fund is created, it should not affect the revenue that goes to the states. The Centre should pay for it itself. Anything else would undermine the constitutional framework and might lead to serious problems in the coming years.

11. SCIENCE AND TECHNOLOGY

Whether the vision of Digital India really transformed the country into a digitally empowered society and knowledge economy? Critically analyse

KEY POINTS

Digital India programme achievements

- One of the largest digital infrastructures of the world was conceived to connect all the 250,000 gram panchayats by a high-speed optical fibre network.
- Bharat Net has reached 1.29 lakh gram panchayats.
- Digital services being offered by the government as well as the private sector have improved the life of every citizen.
- Aadhaar-based eKYC has made it easy to open bank accounts or to get instant mobile SIMs without any paperwork.

- The eHospital services have made it easy to take online appointments in 322 major hospitals.
- Online scholarships, e-Visa, soil health cards etc. have made the delivery of services faster.
- The trinity of Jan Dhan, Aadhaar and Mobile (JAM) has facilitated direct benefit transfers of financial entitlements of various government schemes directly into the bank accounts of beneficiaries.
- The Pradhan Mantri Grameen Digital Saksharta Abhiyan (PMGDISHA), which aims to train six crore rural adults, has trained 2.21 crore beneficiaries.
- Common services centres have not only grown to reach 3.76 lakh, but have also started offering a wide variety of digital services like banking, insurance, utility bill payment, pension, MGNREGA wage payments

Criticisms of the programme

- The issues pertaining to taxation and other regulatory guidelines have proved to be roadblocks in advancing with the programme, while contracting challenges also played a spoilsport.
- Some of the common policy hurdles include lack of clarity in FDI policies, which have impacted the growth of e-commerce.
- The biggest challenge faced by Digital India programme is the slow/delayed infrastructure development.
- Spectrum availability in Indian metros is about a tenth of the same in cities in developed countries. This has put a major roadblock in providing high speed data services.
- Digital divide, this is largely due to the fact that providing mobile connectivity in such locations is not commercially viable for service providers.
- Lack of electricity connectivity in the hinterlands due to Maoist insurgency, misuse of funds; this leads to poor internet connectivity.

The utility of the DNA Technology (Use and Application) Regulation Bill could be of enormous help in many areas but has multiple flaws which needs to be rectified. Elucidate

KEY POINTS

Utility of the DNA Technology bill

- Using DNA effectively during criminal investigations requires proper crime scene examination, and trained and reliable policing.
- Further, a trusted chain of custody of samples, reliable analysis, and proper use of expert evidence in court are also vital for DNA based investigations.
- The Bill addresses the use of DNA in criminal matters such as identifying offenders, suspects, victims and undertrials, as well as missing persons and unknown deceased persons.
- It envisages the establishment of regional and national databanks, where such samples may be stored digitally.
- It would also enable the creation of a regulatory board comprising domain experts. Laboratories conducting DNA tests or analysis will need accreditation with the regulatory board.
- The Bill also lists civil matters where DNA profiling can be used such as parental disputes, issues relating to immigration and emigration, and the establishment of individual identity.

Flaws in the bill

- **Clarity** - The Schedule lists civil matters where DNA profiling can be used. This includes issues relating to establishment of individual identity.
- So, it is unclear if it intends to regulate the medical or research laboratories where the DNA testing is carried out.



- **Consent** - The Bill hasn't specified for any requirement of the consent of the individual when DNA profiling is used in civil matters.
- **Privacy** - DNA laboratories are required to share DNA data with the Data Banks.
- It is unclear whether DNA profiles for civil matters will also be stored in the Data Banks which may violate the right to privacy.
- **Removal** - The Bill specifies the process by which DNA profiles may be removed from the Data Banks.
- However, the Bill does not require DNA laboratories to remove DNA profiles.

Do the adoption of automatic facial recognition system improve the outcomes in area of criminal justice system in India? Critically analyse

KEY POINTS

What is automated facial recognition?

AFRS works by maintaining a large database with photos and videos of peoples' faces. Then, a new image of an unidentified person often taken from CCTV footage is compared to the existing database to find a match and identify the person. The artificial intelligence technology used for pattern-finding and matching is called "neural networks".

Relevance of facial recognition system in India

- It is a new idea the country has started to experiment with. On July 1, the Ministry of Civil Aviation's "DigiYatra" using facial recognition for airport entry was trialled in the Hyderabad airport.
- The NCRB, which manages crime data for police, would like to use automated facial recognition to identify criminals, missing people, and unidentified dead bodies, as well as for "crime prevention".
- The project is aimed at being compatible with other biometrics such as iris and fingerprints.
- "Automated Facial Recognition System can play a very vital role in improving outcomes in the area of Criminal identification and verification by facilitating easy recording, analysis, retrieval and sharing of Information between different organisations."
- NCRB has proposed integrating this facial recognition system with multiple existing databases. The most prominent is the NCRB-managed Crime and The new facial recognition system will also be integrated with Integrated Criminal Justice System (ICJS), as well as state-specific systems, the Immigration, Visa and Foreigners Registration & Tracking (IVFRT), and the KoyaPaya portal on missing children.

The concerns around using facial recognition

- Cyber experts across the world have cautioned against government abuse of facial recognition technology, as it can be used as tool of control and risks inaccurate results.
- Centralized database with the government can be used as tool for spying on the citizens.
- This can lead to violation of right to privacy, fundamental right, outcome of Puttaswamy case.
- Amid National Crime Records Bureau's controversial step to install an automated facial recognition system, India should take note of the ongoing privacy debate in the US. Indian citizens are more vulnerable in the absence of a Data Protection Law.
- Poor internet connectivity affects the efficiency of facial recognition technology.
- International organizations have also condemned the Chinese government on its use of surveillance cameras and facial recognition to constrict the rights of Uighurs, a mostly Muslim minority.



Amidst Chang'e's and Chandrayaan's, there should be a clarity in international law in governing moon for its sustainable use. Examine

KEY POINTS

- When Chandrayaan 2 arrives at the moon in a few weeks from now, it will seek to soft-land the lunar module, Vikram with its rover, Pragyan, on a site between two large craters in the south polar region. Advertising
- Right now, the moon rush on the earth is aimed at the lunar south pole. In January this year, China's Chang'e 4 soft-landed in the Von Karman crater on the dark side of the south polar region.
- China hopes to build a lunar robotic station near the south pole in little more than a decade.
- As a lunar race unfolds, the world will run, sooner than later, into difficult problems about such mundane issues as property rights.
- The international law of outer space is now defined by the 1967 Outer Space Treaty. The OST is quite explicit in affirming that outer space and celestial bodies like the moon can't be "appropriated" by any nation through claims of sovereignty, occupation or any other means. It calls the exploration and use of outer space "shall be the province of all mankind".
- The Outer Space Treaty has no provision for effective dispute resolution. The OST certainly exhorts states to cooperate and extend mutual assistance to each other in outer space.
- There is also contention on another question who owns the resources of the moon?
- In a law approved in 2015, the US has authorised its citizens to own, transport and sell resources exploited on the moon.
- Tiny Luxembourg has passed a similar law to attract companies interested in space mining. The UAE is expected to follow suit soon.
- As India celebrates the successful launch of Chandrayaan 2, Delhi needs to match the extraordinary success of its scientists with sustained diplomatic effort at the highest level.
- Amidst the growing scale and scope of humanity's lunar adventure, the Foreign Office needs to take up international space cooperation as a strategic priority. It also needs to develop a stronger political voice for India in shaping new rules for the moon and outer space.

12. DISASTER MANAGEMENT

The initiative of the Coalition for Disaster Resilient Infrastructure clearly reflects India's commitment in promoting disaster resilient infrastructure in the country. Elucidate

KEY POINTS

- This is the underlying premise of a diplomatic push by Prime Minister in setting up a global Coalition for Disaster Resilient Infrastructure (CDRI) with a funding pledge of 480 crore.
- Prime Minister used the G20 summit in Osaka to promote the idea and invite greater international participation.
- CDRI acting as a convening body that pools best practices and resources from around the world for reshaping construction, transportation, energy, telecommunication and water, so that building in these core infrastructure sectors factors in natural catastrophes.
- CDRI could fill a real gap at a time when climate change-induced floods, cyclones and fires have multiplied in destructive force.
- Suppose a disaster strikes a country, the affected nation could approach CDRI for technical and financial help, thus shielding it from excessive damage and devastation.



- Post-calamity resuscitation and reconstruction to strengthen local infrastructure and soften the blow of the next disaster, is a farsighted approach. It can only work if there is domestic political will, which is reinforced at the multilateral level through CDRI.
- CDRI could be the next major foreign policy innovation Doctrine to enhance India's status by serving the needs of the rest of the world.
- Although India suffers from poor urban and rural planning, it is also being recognized as a world leader in saving lives during natural catastrophes. The United Nations Office for Disaster Risk Reduction (UNISDR) has praised India as a pioneering role model for drawing up a national and local strategy to reduce disaster losses and risks.
- If India is a world leader in preventing human deaths in disasters, it is not so adept in protecting property and infrastructure from extreme weather havoc. This is where CDRI is looking to tap into the expertise of Japan.
- Indian leader sought Japan's assistance in disaster resilient infrastructure and termed the Japanese role as "crucial because of its experience in disaster management, rehabilitation and reconstruction".
- India is therefore looking at Japan to guide CDRI and also tie in disaster-resilient criteria into Japanese foreign aid to developing countries.
- An Indo-Japanese push via the vehicle of CDRI makes eminent humanitarian and geopolitical sense.

13. INTERNAL SECURITY

Discuss the recent changes in the National Investigation Agency (Amendment) Bill 2019 which aid in combating various types of crimes in the country.

KEY POINTS

The National Investigation agency amendment Bill seeks to take tougher action against terrorism.

Recent amendments

- According to PRS Legislative Research, there are three major amendments to the National Investigation Agency (NIA) Act of 2008.
- The first change is the type of offences that the NIA can investigate and prosecute. Under the existing Act, the NIA can investigate offences under Acts such as the Atomic Energy Act, 1962, and the Unlawful Activities Prevention Act, 1967.
- The latest amendments will enable the NIA to additionally investigate offences related to human trafficking, counterfeit currency, manufacture or sale of prohibited arms, cyber-terrorism, and offences under the Explosive Substances Act, 1908.
- The second change pertains to NIA's jurisdiction. Under the Act, for the offences under its purview, NIA officers have the same power as other police officers and these extend across the country.
- The Bill amends this to give NIA officers the power to investigate offences committed outside India. Of course, NIA's jurisdiction will be subject to international treaties and domestic laws of other countries.
- The third change relates to the special trials courts for the offences that come under NIA's purview or the so-called "scheduled offences".
- The existing Act allows the Centre to constitute special courts for NIA's trials. But the Bill enables the Central government to designate sessions courts as special courts for such trials.
- The State Governments may designate one or more Courts of Session as Special Court or Special Courts for conducting the trial of offences under the Act.



14. ENVIRONMENT

Tribal community and small farmers are the best hope to conserve biodiversity and ensure food security. Explain with suitable examples

KEY POINTS

- Forest dwellers and farmers are the best hope to preserve biodiversity and ensure food security
- The DongriaKondh tribe of Niyamgiri Hills are among the best conservationists in the world. Known for the spirited defence of their forested habitat against short-sighted industrialisation, they have through millennia evolved a lifestyle that is in perfect harmony with nature.
- These tribes, along with marginalised communities living on the fringes of forests and millions of smallholder farmers, are the best hope that India has to preserve biodiversity and ensure food security.
- At a time when nature faces the threat of another mass extinction of species, their importance cannot be emphasised enough because they offer us solutions to avert an imminent meltdown.
- Although biodiversity loss is a global problem, it can be countered only with local solutions. There's no one-size-fits-all approach.
- Nothing can be achieved without the active participation of communities that live close to nature — farmers and forest dwellers.
- In their prognosis, UN agencies are unanimous that the best way to correct the present course is to heed the accumulated wisdom of indigenous peoples, fishers and farmers.
- For solutions one has to just look at the growing movement of zero-budget natural farming in Andhra Pradesh and Telangana, or the community-driven forest conservation initiatives in Odisha and the Northeast, to realise that there is hope for the natural ecosystem, if only we act on the advice of local communities.
- The natural farming movement in Andhra Pradesh may not be suitable for, say, Punjab. Fortunately, India's farmers and tribes are nothing if not innovative and they do have local solutions.
- Loss of biodiversity and the threat of species extinction along with the alarming changes wrought by global warming are the primary concerns of our times.
- Our best bet for survival depends on how well we address these issues. We can do that only if we put people at the centre of our actions.

Moving towards a low carbon transport system aids the process of inclusive growth. Elaborate

KEY POINTS

Globally, the transport sector accounts for a quarter of total emissions, out of which three quarters are from road transport. Reducing CO₂ emissions of road transport leverages multiple co-benefits, for example, improving air quality and increasing physical activity, which are critical for well-being, particularly in urban areas.

Focus on well-being

- Uptake of non-motorised transport emerges as a sweet spot of sustainable development, resulting in both lower emissions and better public health in cities.
- This kind of initiative enable whole society to participate in reducing air pollution, inturn focus on their quality of life.
- With better planning, slum areas in the urban fringe can be eradicated gradually.
- According to the recent National Family Health Survey (2015-16), nearly 30% of all men are overweight or obese in southwest Delhi, but only 25% in Thiruvananthapuram and 13% in Allahabad.



- These data correlate with high reliance of car use in Delhi and low demand for walking.

Role of electric vehicles

- Another of our studies that investigates data from the India Human Development Survey shows that a 10% increase in cycling could lower chronic diseases such as diabetes and cardiovascular diseases for 0.3 million people, while also abating emissions.
- Car use, in contrast, correlates with higher rates of diabetes. Therefore, fuel price increases, congestion charges or parking management could be a strategy that improves the well-being of individuals living in urban areas.
- Second, India should double down in its strategy to transition to electric two and three-wheelers.
- The current statistics even suggest that electric three-wheelers and electric two-wheelers, rather than electric cars, will drive the electric vehicle market in India.
- This subsequently provides employment to huge number of youth and increases percapita income correspondingly.
- This will also help in transforming India's vision of 'Make in India'.
- Building schools and hospitals matters especially for informal settlements and are critical in achieving low carbon development as well as improving the quality of life.
- Providing access to public service, choosing rapid transit over car driving in cities and supporting the rise of electric two and three-wheelers will help drive India to a modern and low-carbon transport system fit for the 21st century.

Explain the causes of river flooding in the State of Assam and suggest solutions for its better management.

KEY POINTS

- The vast amount of sediment comes from Tibet, where the river originates. "That region is cold, arid and lacks plantation. Glaciers melt, soil erodes and all of it results in a highly sedimented river,"
- By the time the river enters Assam — a state comprising primarily floodplains surrounded by hills on all sides — it deposits vast amounts of this silt, leading to erosion and floods.
- As the river comes from a high slope to a flat plain, its velocity decreases suddenly and this results in the river unloading the sediment," said Borgohain. The river's channels prove inadequate amid this siltation, leading to floods.
- Again, because of the earthquake-prone nature of the region, the river has not been able to acquire a stable character.
- Besides these natural factors are the man-made ones habitation, deforestation, population growth in catchment areas (including in China) which lead to higher sedimentation. For example, the sediment deposition itself creates temporary sandbars or river islands.
- It is common for people to settle in such places, which restricts the space the river has to flow. When rainfall is heavy, it combines with all these factors and leads to destructive floods. This happens very frequently.

Remedial measures

- "Embankments were proposed only as an interim and ad hoc measure for short-term mitigation,"
- The government also considered dredging, basically digging up the riverbed and making the river "deeper". "They are not addressing the problem at the source — they are firefighting,"
- "integrated basin management" system that should ideally bring in all the basin-sharing countries on board. "

- Addressing the issues only in Assam when the flood strikes isn't the solution — one needs the countries to come to an understanding about taking measures in the catchment areas.”
- that, interstate relationships, political cooperation and the role of the government are important.
- Flood-plain zoning, depending on the vulnerability of the area, you divide them into categories, and accordingly ban certain activities on it: like farming, building a house etc.

The carbon tax can be an effective policy instrument for realising India's Paris commitments and can substitute the current Clean Environment Cess. Justify

KEY POINTS

- Putting a price on carbon and taxing it directly is considered far better than deciding the limit of emissions through the 'cap and trade' system, under which maximum emission limits are decided for the firms.
- Firms are required to buy permits if they pollute more than the prescribed limit. Similarly, firms can sell their permits to others if they pollute less than the limit.
- Obviously, the carbon tax system has advantages over the 'cap and trade' system due to its simplicity, affordability, revenue recycling and predictability of carbon prices. Further, the tax has price certainty, transparency and focuses on direct response as it checks unintended incidence of certain taxes on labour and capital, leading to employment generation, increased output and productivity.
- Clearly, the carbon tax has three benefits. It—a) reduces emissions; b) stimulates innovations; and c) raises government revenue.
- In fact, a carbon tax is the most basic economic instrument which can be used to price carbon and combat CO₂ emissions, and correct negative externalities. It works on the principle of 'the polluter pays'.
- It can be argued that a carbon tax can easily be an effective policy instrument in reducing different local pollutants and achieving INDC targets for India.
- Moreover, the tax can substitute the current Clean Environment Cess, which serves little to no purpose as the it is subsumed under GST. Tax proceeds may be used to a) subsidies clean fuels and fuels used in the agriculture sector, b) promote electric vehicles through subsidy, c) improve public transport, and d) build infrastructure.
- The primary aim of the tax is to discourage environment unfriendly production and consumer practices by making the polluting sources costlier without any negative effect on overall employment and output levels.
- The imposition of a carbon tax with revenue recycling, in terms of earmarking the revenue for related purposes, will help develop synergies and win-win situations.
- The revenue so generated will also contribute to the dwindling tax revenue, and reduce the fiscal deficit, which is targeted at 3.3% for 2019-20. Time has come when India has to become a pioneer among emerging economies and impose an explicit carbon tax, and let the polluters pay.

Increasing demand of metals like lithium, molybdenum threatens the biodiversity of deep sea ecosystems. Substantiate

KEY POINTS

- The tech industry's ever-increasing demand for rare metals, like lithium and molybdenum, portends an explosion in mining of the ocean floor in the coming years.
- Lithium is a good conductor of electricity is used to produce mobile batteries, increasing demand for smartphones increases the demand for lithium.

- Further molybdenum is used as catalyst in various reactions and is used to manufacture air craft parts in aviation sector.
- International Union for Conservation of Nature added the scaly-foot snail to its Red List of Threatened Species—the first species to be threatened by deep-sea mining.
- The marine animal occupies just three locations in the western Indian Ocean; these locations included sites identified for mining.
- Destruction of coral reefs because of mining decreases the complex biodiversity in marine ecosystems.
- As per Nature, countries and corporations already hold contracts for mining exploration of about 1.3 million sq km of the sea bed implying that thousands of marine species, many of which haven't even been identified, face unprecedented extermination and, possibly, extinction risks.
- The International Seabed Authority (ISA), responsible for deep-sea mining in international waters, also has a mandate to protect the international sea-bed.
- Even as it is expected to finalise a code for sea-bed mining by 2020, it must take into account a host of factors that make deep-sea mining almost inimical to the planet's long-term conservation interests—it is feared, deep-sea mining will release vast amounts of carbon trapped in deep-sea sediments, aggravating conditions on the climate change front.
- Marine scientists have written an open letter to ISA, calling for evaluation of company/country proposals by independent scientists and for the organisation to work more closely with intergovernmental organisations that can forefront conservation concerns in talks with companies, especially since the ISA seems to prioritise its developmental role over its conservation one.
- But, given how the Earth's future is also tied to tech developments, ISA must strike a fine balance.

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