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Shankar IAS Academy™

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JUNE 2019

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G.S PAPER - I

1. HISTORY

Maharaja Ranjit Singh can be considered as “Iron man” of Sikh Community. Explain

KEY POINTS

Maharaja Ranjit Singh, Ironman of Sikh Community

- Ranjit Singh overthrew the warring Misls and established a unified Sikh empire after he conquered Lahore in 1799.
- He was given the title Lion of Punjab (Sher-e-Punjab) because he stemmed the tide of Afghan invaders in Lahore, which remained his capital until his death.
- At the time of his death, he was the only sovereign leader left in India, all others having come under the control of the East India Company in some way or the other.

Wide, powerful reign

- He combined the strong points of the traditional Khalsa army with western advances in warfare to raise Asia's most powerful indigenous army of that time.
- He also employed a large number of European officers, especially French, to train his troops. He appointed French General Jean Franquis Allard to modernise his army.
- The maharaja was known for his just and secular rule; both Hindus and Muslims were given powerful positions in his darbar.
- The Sikhs take pride in him for he turned Harimandir Sahib at Amritsar into the Golden Temple by covering it with gold. Right at the doorstep of the sanctum sanctorum of the temple is a plaque that details how in 1830 AD, the maharaja did sewa over 10 years.
- He is also credited with funding Hazoor Sahib gurudwara at the final resting place of Guru Gobind Singh in Nanded, Maharashtra.

2. SOCIETY

Despite the necessity of social changes, what a law-maker of the country should do prevent the occurrence of mob lynchings.

KEY POINTS

India's social changes have been gradually progressing due to better quality education, employability but inter regional disparities within the country results in unexpected outcomes, one of which is mob lynching.

Mandate of the law maker to prevent Mob lynching

- Boosting trade and urbanisation, so that people, especially youngsters, lead engaged lives, and improve chances of finding gainful employment.



- The region shall benefit from developing twin cities like Kanpur-Lucknow; Allahabad-Varanasi or Dhanbad-Bokaro, and empowering their local governments so that such cities can grow to become large urban agglomerations supporting the regional economy and become magnets of capital and talent.
- Better rule of law, as India has one of the lowest per capita levels of police force, which hampers law and order.
- Creation of special economic zones which can then attract more investors and jobs, creating more manufacturing jobs in the region should be a priority.
- Preventing the spread of fake news by creating awareness in the social media, following ethical journalism plays crucial part by the mass media.
- The lynching case should be heard in fast-track courts along with stringent punishment.
- Prominent discussions in Parliament about the Mob lynching.
- Transparent investing by the concerned police officer along with strict patrolling in crucial areas.
- Emphasizing on the quality of education in the school curriculum about moral, social, ethical values etc. Example: treating fellow persons equally, giving due respect inspite of status.

3. ART AND CULTURE

Yoga is a treasure of ancient India and a unique part of the world's intangible heritage. Explain.

KEY POINTS

Treasure of ancient India

- Yoga is essentially an ancient physical, mental and spiritual practice that originated in India possibly around the 5th century BC, an effective workout.
- The origin of yoga is found in the *Yogasutra* of Patanjali.
- It is a comprehensive approach to achieve wellness.
- It recognizes the vital connection between the body and the mind. Thus this philosophy is also considered a means of achieving freedom or *mukti*.
- Yoga aims for balance and equanimity, peace, poise and grace. It is a sublime expression of the quest for excellence, for synthesis and harmony.

Unique intangible heritage

- “Balance” is at the heart of sustainability. And that “balance” in all spheres starting with physical well-being is what yoga is all about.
- Yoga is an approach to life that focuses on physical balance, mental equilibrium and working towards a harmonious synthesis of diverse elements including the protection of the environment.
- Quite appropriately, the theme of the 2019 International Yoga Day is “Climate Action”.
- As the world makes the epidemiological transition and the contribution of most of the major non-communicable disease groups to the total disease burden is increasing, it is important that individuals make healthier choices and follow lifestyle patterns that foster good health.
- As Harvard Medical School experts have recognised, yoga, a combination of four components postures, breathing practices, deep relaxation, and meditation has a significantly positive impact on health.
- It can alleviate arthritis pain, reduce the risk of heart disease, relieve migraines and fight osteoporosis.
- It is truly a matter of quiet satisfaction that India is contributing to the health and well-being of millions of people across the globe.



- The fact that the UN resolution moved by the government of India was co-sponsored by a record 177 countries bears testimony to yoga's universal appeal and India's readiness to support the cause of global health.
- A few schools in some countries, including the US, have introduced yoga as a part of the curriculum for children.
- Yoga, therefore, is a way of thinking, a way of behaving, a way of learning and a way of problem-solving. It is a unique way of connecting ourselves with the external environment and generating positive synergies of thought and action. It creates stability, enhances ability. It can serve as an effective ground for sustainability.

4. GEOGRAPHY

How does Cyclone Vayu interfere with progression of Southwest monsoon? Discuss its consequences

KEY POINTS

Cyclone Vayu – it is still to develop into a cyclone and is only a deep depression as of now – is currently positioned around 250 km northwest of Aminidivi island in Lakshadweep.

Monsoon worries

- Vayu is likely to halt the northward progression of the monsoon for a few days. The arrival of the monsoon has already been delayed, hitting the Kerala coast on June 8 instead of June 1.
- The cyclone is expected to interfere with normal progression, by sucking all the moisture from the monsoon winds towards itself.
- The low-pressure area at the centre of the cyclone is far more powerful than any local system that can pull the monsoon winds moving northeast.
- So, the northward progress, especially in interior areas, would not be possible till the cyclone dissipates.
- What this means is that the places where the monsoon has already reached would continue to get rain, mainly along the western coastline, but other areas would have to wait a little longer.

Consequences

- Increased dryness India in addition to the delayed monsoon.
- Prediction of monsoon becomes complex.
- Crops based on the arrival of monsoon will have lower yield.
- Decrease in intensity of the monsoon rainfall.
- Prediction of inflation on food crops become complex.

Glacier meltdown in himalayan region can be considered as an opportunity and crisis for India. Explain

KEY POINTS

- That the Himalayan glaciers are melting rapidly is known. A recent satellite data-based study of around 650 glaciers across the 2,000-km Himalayan range estimates that the rate of decline in the snow cover, which averaged around 22 cm between 1975 and 2000, has accelerated to over 43 cm between 2000 and 2016.
- The journal, *Science Advances*, the Himalayas are losing nearly 8 billion tonnes of frozen water every year.

Impending crisis

- The air pollutants, such as black soot (carbon) and dust, which find their way to the glacial ice, absorb heat from the sun and hasten snow melting.



- Even if the Paris agreement's goal of capping global temperature rise to 1.5 to 2 degrees Celsius above the pre-industrial levels is met it is likely that the Himalayas could still lose over a third of their ice cover by the end of this century.
- As per the Climate vulnerability report of Indian Himalayan regional states prepared by IIT Guwahati shows that Assam Himalayas (0.72) is the most vulnerable to climate change while Sikkim is the least.
- The main fear is that the water flows in these channels would turn uncertain, irregular and, more so, unpredictable.
- In the shorter run, the increased snow melting may swell their water stocks, heightening the risk of floods.
- But in the longer run, with the perceptible contraction of the snow cover by around, say, the 2050s, the flows would tend to taper off, causing frequent water shortages downstream.

An opportunity

- The Himalayan snow deposits, the lifeline of the rivers emanating from this mountain chain, are critical to meet the water needs of millions of people in India and other Asian countries, particularly during the pre-monsoon summer months.
- Necessity to rediscover the traditional water harvesting structures to recharge the depleting aquifers.
- Guiding the runoff water into the underground aquifers through rainwater harvesting structures is the best and the safest method of water preservation.
- Rapid melting calls for measures need to be taken to prevent the flooding especially in rivers like Kosi, Gandak.
- Stringent measures to reduce the impact of environmental pollution in plains.
- Emphasis on the interlinking river project to transfer the water to dry river basins.



GS PAPER -II

5. INDIAN POLITY

What are the significance of Cabinet committees? Discuss the functions of recently established cabinet committees by the Government.

KEY POINTS

- The executive works under the Government of India Transaction of Business Rules, 1961. These Rules emerge out of Article 77(3) of the Constitution. Cabinet committees constituted under these rules.
- The Cabinet Committee are organizations which are instrumental in reducing the workload of the Cabinet. These committees are **extra-constitutional** in nature and are nowhere mentioned in the Constitution.
- The Prime Minister constitutes Standing Committees of the Cabinet and sets out the specific functions assigned to them. He can add or reduce the number of committees.

The new panels

Investment:

- The Cabinet Committee on Investment will “identify key projects required to be implemented on a time-bound basis”, involving investments of Rs 1,000 crore or more, or any other critical projects, as may be specified by it, with regard to infrastructure and manufacturing.
- It will prescribe time limits for giving requisite approvals and clearances by the ministries concerned in identified sectors. It will also monitor the progress of such projects.

Employment:

- The Cabinet Committee on Employment and Skill Development is supposed to provide direction to all policies, programmes, schemes and initiatives for skill development aimed at increasing the employability of the workforce for effectively meeting the emerging requirements of the rapidly growing economy and mapping the benefits of demographic dividend.
- It is required to enhance workforce participation, foster employment growth and identification, and work towards removal of gaps between requirement and availability of skills in various sectors.
- The panel will set targets for expeditious implementation of all skill development initiatives by the ministries and to periodically review the progress in this regard.

The addition of the two committees is indicative of the new focus areas for the government. The goal of both is new jobs.

What do you meant by the independence of judiciary? Discuss the factors that are required to strengthen the judiciary as an institution at various levels.

KEY POINTS

- Independence means and implies “not dependent on” or “not controlled by” any outside agency or source.
- Independence is the very soul of a functional judiciary.
- The function and decision of the judge that must be independent of any extraneous consideration or of any fear or prejudice of the judge himself.
- Security of tenure
- Non-interference from legislature.

Factors required to strengthen judiciary

Strengthening of institutions works best when they are strengthened from within and not when strength is sought to be infused from an external source.

Factors that would be required to strengthen the independence of judiciary

Internal factors

- To develop and nurture leadership at all levels of the institution.
- Leadership roles bring decisiveness and direction at all levels.
- Leadership skills at ground levels will also assist in securing the independence of individual judges.
- The judiciary also needs to work on securing its independence in financial matters. The control of revenues and on expenditure essentially vests with governments.

Constitutional factors

- The Indian Constitution under Article 50 makes it obligatory for the state to undertake steps to separate the executive from the judiciary.
- Judges' appointment process as envisaged under Articles 124 and 217 of the Indian Constitution for Supreme Court and High Court respectively envisages judicial oversight.
- The tenure has been also secured and removal is possible only by if there is proved misbehaviour and incapacity.
- Their salaries have been prescribed under the constitution itself.

Administrative factors

- The collegium is governed primarily by the consideration of merit in recommending the names. However, it is also alive to the issue of a representative judiciary.
- The Supreme Court of late has started posting the decision of the collegium on its website to meet the standards of transparency.

Instead of NITI Aayog, the Inter-State Council should be revived as the nodal location for discussing matters that involve both the Centre and the states. Comment

KEY POINTS

Yes, Inter-State council should be revived as nodal location for discussing matters involving both Centre and States.

Reasons

- Article 263 of the Constitution of India provides for the Inter-State Council, constitutional body.
- Constitutional mandate for the ministers to attend the meeting, so that they don't skip.
- Apt institution to provide scope and substance for Co-operative federalism, especially for issues like Insurgency, simultaneous elections.

Why not NITI Aayog

- Created specially for developmental and planning purpose.
- Consisting mostly of bureaucrats and are not elected representatives of people.
- The NITI Aayog body has no powers to support state plans.
- The institution was intended to support the states to attain goals like sustainable development, rather than resolving issues.



6. GOVERNANCE

Indian Civil servants are not tested for their leadership skills nor ethics. Explain the methods to achieve it and discuss the challenges present in it.

KEY POINTS

There has so far been no concerted or sustained effort to manage senior civil service in a comprehensive manner. The steps have been ad hoc in nature.

Lateral recruitment is also one such effort.

Methods

- The objective should be to select such persons who have leadership qualities or have the potential to become leaders. The training should also centre around honing leadership skills.
- A leader has to be able to build a team and carry it along with him by motivating those working with him.
- Thus, more than individual activities, emphasis has to be given to group activities.
- Case studies-based methodology needs to be adopted to drive home the points.
- What is required is the transformation of attitude as an officer, the necessity and utility of ethical behaviour.
- Periodic upgradation of skills and learning from each other should be the focus of in-service training.
- The inclination and aptitude of the officer needs to be closely monitored to determine his postings and assignments.

Challenges

- Frequent transfers can be extremely debilitating but seem to have become the order of the day in a number of States.
- If an officer is transferred frequently, he will not be able to deliver, and responsibility cannot be fixed if he is unable to perform. This is one reason that has led to politicisation of bureaucracy.
- Some States like Tamil Nadu have experimented with Civil Services Board but it hasn't really worked.
- Postings should be based on integrity and competence and not on allegiance.
- An agency, like the UPSC, can be assigned to prepare a panel from which the government can select an officer.

Assessment issues

- These Annual Confidential Roles have ceased to be confidential as they have to be communicated to the officers. This has impacted the efficacy of ACRs as no officer wants to get embroiled with an officer dissatisfied with a grade.
- The 360 degree evaluation in vogue for the past few years is even worse as it is opaque and has had a demoralising effect on the civil service.
- No discussion is held with the officer who is being assessed and he is not even informed about the reason for not being empanelled.
- There is no harm in lateral entry of officers but whether that will improve governance is a moot point. Governance will perhaps improve only if senior civil service is itself managed appropriately.



7. GOVERNMENT POLICIES

MGNREGA works relatively better when comparing with other redistributive programmes like including farm loan waivers, cash transfers and minimum income guarantees. Discuss

KEY POINTS

- Revised NREGA 3.0, in which 150 days of employment would be guaranteed to the rural poor.
- Crucially, the most basic tenet of the NREGA — its self-targeting mechanism — does work.
- While the DBT, loan waiver, PDS requires identification costs and it is difficult for the government to target the beneficiaries with available data.
- Government still relies on Socio-economic caste census data 2011 for targeting poor in schemes like PMUY, Saubhagayojana.
- Poorer and disadvantaged households are more likely to seek NREGA work.
- Given the enormous, though sometimes unmet, demand, has NREGA enabled the rural poor to cross the poverty line.
- State-level studies show NREGA favours the most disadvantaged. In Andhra Pradesh, monthly per capita food consumption amongst the very poor who received work under NREGA increased by estimates of 9-10 per cent in the first year of implementation.
- The poorest SC/ST households and those with a disabled member saw even higher growth in consumption and nutritional intake in the short-run, and in the medium-term, substantially increased their non-financial assets.
- NREGA also plays a critical role in reducing vulnerability. Research indicates that NREGA provides employment after an adverse rainfall shock, enables workers to smoothen their consumption with variations in rainfall, and reduces risk during the lean season.
- Despite been severely rationed, NREGA acts, as per its mandate, as a very desirable social protection mechanism amongst the most disadvantaged classes.
- Compared to other proposals on the table, NREGA efficiently allows the most disadvantaged to spur their consumption in times of rural distress.

Overstocking of foodgrains on the grounds of food security needs to be rationalized to utilize the available food stocks effectively. Examine

KEY POINTS

According to Ministry of Agriculture and farmer, the total inventories in the Central grain pool are close to twice the desired stockpiling of 41.1 million tonnes.

This ultimately inflates the food subsidy.

Reasons for overstocking of food grains

- Overstocking of food grains could be justified in the past on grounds of food security, but not in today's stable food surplus economy.
- The oversupply of food grains is attributable also to steady uptick in the output of cereals in the absence of a reliable export outlet.
- FCI and the state agencies have mopped up 76.1 million tonnes of staples (33.8 million tonnes wheat and 42.3 million tonnes rice) though the anticipated requirement of the public distribution system and welfare schemes is only around 61 million tonnes. Such imprudence in handling the food economy is untenable.

Measures to utilize the stocks

- Implementation of The Shanta Kumar Committee on the FCI and food sector reforms had specifically cautioned against overstocking in its report presented in 2015 and pointed out that it entailed heavy costs without serving any purpose.
- Offloading of inventories in the domestic or export markets as soon as these tended to exceed the buffer stocking norms.
- The need, therefore, is to reorient crop production in favour of high-value and export-worthy products. Paddy can easily be substituted in the north-western non-rice consuming region with crops like basmati, cotton, maize, soyabean and others which are in demand at home and abroad.
- Haryana has already begun doing so by offering cash incentives and free seeds of alternative crops.
- Similarly, procurement as a means of lending price support to a crop can be replaced with systems like price deficiency payment and direct income support to farmers.

Discuss the critical gaps present in MPLADS Scheme and suggest remedial measures for improving the performance of the scheme.

KEY POINTS

During the discussion in Lok Sabha, there are various problems with MPLADS with Ministry of Statistics and Programme Implementation (MOSPI).

Critical gaps

Poor implementation of the scheme

- CAG on various grounds that included sanctioning of huge sums to trusts/societies beyond the norms or sanctioning of funds to ineligible organizations.
- The utilization of MPLADS funds on the ground has even invited allegations of wrongdoing at the grassroots level by political opponents eroding public trust in elected representatives.

MOSPI data shows that over Rs 12,000 crore lies unspent, with some of it having not been released to lawmakers in the first place. This capital could have been deployed elsewhere for better realisation of the development agenda.

CIC is proposing that the framework make MPs answerable under RTI for MPLADS, which never took off.

Assets allegedly created under the scheme couldn't be traced, and in one case, MPLADS money was spent on a length of road that was built under MLALADS funds.

Remedial measures

- Strict monitoring mechanism under ambit of e-governance to increase the transparency in utilization of funds.
- A dedicated tab in MOSPI website to show details of funds allotted.

According to 2nd ARC report

- Interest accrued on MPLADS funds may be utilised for developmental purposes.
- Money released under the MPLADS should be deposited in the nationalised banks under a separate account.

The key message from UN's World population prospects 2019 report is that India's growing population poses more challenges than opportunities. Elaborate

KEY POINTS

- In a dubious first, India is set to become the most populous nation in 2027, surpassing China, according to an estimation by the United Nation's Department of Economic and Social Affairs.
- India's population has ballooned from 555.2 million in 1970 to 1,366.4 million now, a 146 per cent expansion.

India's growing population poses more challenges than opportunities

- According to ASER report by Pratham, India's elementary education is not at par with international standard.
- 1 out of 4 children in rural India leaves Class 8 without basic reading skills and over half of them (55.9%) without basic numerical literacy.
- Lack of access to Primary health care facilities, anganwadi workers are not paid their salary in a timely manner by state government. In Maharashtra tribal areas lack health facilities due to lack of anganwadi workers.
- Increase in slum areas near the peri-urban areas.
- Water crisis across various states like Maharashtra (Latur), Tamil Nadu (Chennai) shows great demand for water due to increase in population.

Government Initiatives

- The Government of India had set up a National Population Stabilization Fund (NPSF) in the year 2004-05 with a one-time grant of Rs.100 crore in the form of a corpus fund. This is now known as JansankhyaSthirata Kosh (JSK).
- In order to help push up the age of marriage of girls and space the birth of children in the interest of health of young mothers and infants, Jansankhya Sthirata Kosh (National Population Stabilization Fund) has launched PRERNA, a Responsible Parenthood Strategy in seven focus states namely Bihar, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Jharkhand, Odisha, and Rajasthan.
- ShaGun portal to monitor the progress of Elementary education and minimize the drop out rates.
- National child labour project 1988 to rehabilitate the child labour and increase the employability of workforce.
- Pradhan MantriKausalyaVikasYojana for vocational education and imparting necessary skills to the youth to reap the fruits of demographic dividend.

Managing forest and water resources for future generations must assume centrestage in policy-making, calling for a paradigm shift in the notion of development.

Electric vehicles industry needs to get the appropriate transition time for gradually phasing out fossil-fuel based vehicles. Analyse

KEY POINTS

The government's plan to ban sales of fossil fuel-driven two- and three-wheeler vehicles by 2025 could not have come at a good time.

Challenges that the Industry facing

- The increase in the cost of vehicles and inadequacy of the existing supply chain.
- Batteries, which constitute 40 per cent of the cost of vehicles, would increase the price of two-wheelers.
- In addition, considerable planning and execution are required to simultaneously develop a complete ecosystem around EVs, including charging stations.
- As per Society of Indian Automobile Manufacturers, Two-wheelers account for 79 per cent of the number of vehicles whereas economy and premium cars have only a 14 per cent share.
- Another cause for worry is India's growing dependence on oil imports. The NITI Aayog estimates savings of Rs 1.2 trillion (at Rs 70 per litre) in the oil bill if the Electric vehicles transition takes place.
- Rising air pollution, India's metropolitan cities have its position in WHO list of most polluted cities.
- Financial constraints in providing subsidies to Electric vehicles.
- Shifting to BS-6 norms by April 2020.



Reinventing the methodology of poverty line in India is crucial for the development of the country.

Discuss

KEY POINTS

- Existing poverty line on the basis of Suresh Tendulkar committee heavily relies on month per capita income of the individual.
- But poverty not only has economic dimension but also other dimensions like social dimensions, infrastructure facilities, accessibility etc.
- So it is now crucial for Government to update its poverty line by including the relevant dimensions according to the present situation.

Reasons for updating poverty line

- We are not a poor country any more, not with just 4.5 per cent of the population classified as poor (the Tendulkar poverty line of Rs 44 per person per day in 2017-18 prices).
- Given that there has been very low inflation since then, consider this as the poverty line today.
- We have always considered food consumption as the ultimate criterion of poverty. Hence, we have built up an elaborate (too elaborate) ecosystem of food production, consumption, and distribution.
- Time has come to dismantle this ecosystem an ecosystem that is biased against the poor farmer, against climate change mitigation and also against efficient use of water and energy.
- The rethink has to be about defining poverty in relative, not absolute terms. Most European nations have a relative definition of poverty that is, a fixed proportion of the median income.
- We should move towards that by the end of 2024, when India will likely be a \$5 trillion economy with a per capita income of around \$3,500-\$4,000.
- India should forthwith move towards an updated poverty line, a poverty line consistent with our income status today as a lower-middle income country note, no longer a poor economy.
- Poverty is now not just about food but living standards — sanitation, housing, piped water, electricity, education, health, and jobs, each of these elements, the focus should shift to quality, not quantity.
- Poverty is no longer about food, so free up the food producers rather than keeping them as prisoners of policy (and politicians and bureaucrats).
- Therefore, the new approach towards poverty alleviation should involve targeted income transfers.
- The direct benefit transfer mechanism of the government has been able to resolve targeting problems for a bulk of the 430 government schemes and subsidies.
- Such a policy is likely to help the government in rationalising and consolidating its poverty reduction programmes, thereby freeing up resources for other sectors in the economy.

8. HEALTH

What is meant by gaming-disorder? Discuss the various impacts of the disorder along with the remedial measures.

KEY POINTS

The WHO defines gaming disorder “as characterised by impaired control over gaming, increasing priority given to gaming over other activities, and the continuation or escalation of gaming despite the occurrence of negative consequences.

Impacts

- The World Health Organisation’s (WHO’s) latest International Classification of Diseases (ICD-11).



- The ICD-11 lists “Gaming Disorder” as a modern disease with clinical symptoms.
- It will also have negative repercussions for the consumer electronics industry, which depends on gamers for the sale of high-end consoles, specialised PCs and high-performance tablets, and mobiles.
- Indeed, there are academic studies that indicate that gaming can be a healthy and stimulating activity with educational value and the WHO says that the vast majority of gamers are not suffering from the disorder.
- It could result in sin taxes being imposed, in analogy with the taxes imposed on the tobacco, alcohol and cannabis industries. There might well be censorship and labelling imposed on games as well.

Remedial measures

- To adopt an ethical code of conduct, and self-regulate to cut down on violence, or expunge politically incorrect storylines.
- Game developers could also contribute some of their profits to medical treatment for addicts.
- Developing games which improve the knowledge of the person, inculcating ethical and moral values in the games will help in avoiding gaming disorder.

What is meant by one health concept? Discuss the remedial measures for better health management.

KEY POINTS

The One Health concept

- The World Organization of Animal Health, commonly known as OIE (an abbreviation of its French title), summarises the One Health concept as human health and animal health are interdependent and bound to the health of the ecosystems in which they exist.
- Climate change, deforestation and intensive farming further disrupt environment characteristics, while increased trade and travel result in closer and more frequent interaction, thus increasing the possibility of transmission of diseases.
- According to the OIE, 60% of existing human infectious diseases are zoonotic i.e. they are transmitted from animals to humans; 75% of emerging infectious human diseases have an animal origin.

Remedial measures needed

- This builds a strong case for strengthening veterinary institutions and services.
- The most effective and economical approach is to control zoonotic pathogens at their animal source.
- Close collaboration at local, regional and global levels among veterinary, health and environmental governance, greater investment in animal health infrastructure.
- Strict health surveillance to incorporate domestic animals, livestock and poultry too. Humans require a regular diet of animal protein. Thus, loss of food animals on account of poor health or disease too becomes a public health issue.
- The size of India’s human and animal populations is almost the same; 121 crore people (2011 Census) and 125.5 crore livestock and poultry.
- Need for Private sector presence in veterinary services is close to livestock.
- A veterinarian is always on a house call on account of the logistic challenge of transporting livestock to the hospital, unless they are domestic pets. So better transport systems are needed.
- Need to reach every livestock farmer, not only for disease treatment but for prevention and surveillance to minimise the threat to human health.



- Early detection at animal source can prevent disease transmission to humans and introduction of pathogens into the food chain.

9. EDUCATION

K Kasturirangan report reflects a sincere effort to mobilize innovative solutions to address the deficiencies in Indian education system. Discuss

KEY POINTS

- K Kasturirangan report, amounts to a wholesale restructuring of the country's school, higher education and technical education systems, in keeping with the lofty aim set out in 2017 of making India a "knowledge superpower".
- Reiterating the urgency for India to invest in Early Childhood Care and Education (ECCE) the report says a Re 1 investment yields an expected return of Rs 10 it takes an all-encompassing view that includes infant and maternal nutrition.
- To this end, it says the state's ECCE investment should start when the child is three years old, and suggests restructuring the school curriculum for 15 years of schooling.
- Within the current system of delivering pre-school learning through anganwadis and private play schools, the report sets out a detailed framework for them to improve the quality of schooling.
- This is certainly an imaginative solution but it may run into practical difficulties. For instance, emphasize on anganwadis with training staff and resources to do this.
- Although the committee's intentions are admirable in suggesting a significant expansion of pre-school education, it would have been more practical had it focused on enabling the government to concentrate on delivering better-quality schooling within the current 12-year system,
- Annual Status of Education Reports have shown to be critically sub-standard. That section of the report does suggest some useful improvements in teaching routines to improve foundational literacy and numeracy a prescribed minimum daily and weekly focus on language and maths and a connect with real-life learning.
- The report addresses these problems by suggesting the mobilisation of a large-scale volunteer programme and a refocus of the teacher-training programme both in content and structure by integrating them into a new system of centralised teaching institutions.
- The micro-recommendations for pre-school education offer a flavour of the treatment the Kasturirangan report has accorded to higher and technical education.
- Overall, the report reflects a sincere effort to mobilise innovative solutions to the vexed problem of India's education and, at the same time, take on board the opinion of all its members (why else would it include a suggestion to set up a school for Persian and other Oriental languages).

The draft of National Education policy 2019 is a reformative step in a right direction, but the issue of inequalities in education system remain unaddressed. Critically discuss

KEY POINTS

Reformative step

- Policy proposals such as providing greater room for student choice, shifting curricular focus from content to skills and essential learning,
- enhancing emphasis on foundational numeracy and literacy,
- building on learning outcomes and experiential learning,
- recognizing the relevance of liberal arts education at the senior level, providing flexibility in the examination system,



- introducing a semester system at the senior level are indeed welcome.
- Long-awaited reforms in teacher education and a clear emphasis on their ongoing professional development are truly laudable.
- The success of any policy is contingent on its implementation.
- The proposal in the draft NEP 2019 of having similarly constituted school management committees in both government-aided and independent schools.

Issue of inequalities

- While the policy talks about the need to bring “unrepresented groups” into school and focus on educationally lagging “special education zones”,
- It misses a critical opportunity of addressing inequalities within the education system. It misses to provide solutions to close the gap of access to quality education between India’s rich and poor children.
- While the policy places considerable emphasis on the strengthening of “school complexes” (clusters of schools sharing joint resources) and decentralized mechanisms for supporting teachers, their everyday management appears to have been tasked to the head teacher of the secondary school in the cluster.
- Furthermore, no separate funding appears to have been earmarked for this. This is false economy, since this is a full time activity and needs to be staffed and resourced accordingly.
- The revenue is decentralized to the states and it is unclear what would be done to ensure that resources needed will be allotted.

10. INTERNATIONAL RELATIONS

Does the present Indian foreign policy frame work have the adaptability and flexibility to deal with the changing global dynamics? Comment

KEY POINTS

Yes, India’s foreign policy has adaptability and flexibility but India will need to reshape its foreign policy to deal with changing global dynamics

- India’s going to have to tread a cautious path between the US and China, Here India had established a good relations withnBIMSTEC,with help of Look East policy.
- India’s strengthening neighbourhood policy supported by I.K.Gujral doctrine. Afghanistan recently gave way for India to claim the non-permanent seat in UNSC.
- India’s relation with ASEAN is being strengthened by Look east policy which inevitably contributes to the development of northeastern states like Manipur and Tiripura.
- India’s stature in global arena is raised by importance given to Indo-pacific by developed countries like Japan, Australia, USA.

Need for reshaping its foreign policy

- Trade wars subsequently leading to currency wars.
- Raising global tensions due to North korea’s missile testing.
- Crisis in Yemen, Syria, Israel- Palestine cinfilt in the middle east.
- India’s bid to build its own hi-tech national champions that could curb space for companies like Google, Microsoft and Facebook.
- Skirmishes with Pakistan. Blovking of trade at western borders of India, withdrawal of Most favoured nations status.



- The Chinese, too, know peace is vital for their China-Pakistan Economic Cooperation (CPEC) mega-project.

How India can play a pivotal role in decolonising the Chagos archipelago? Explain

KEY POINTS

- The United Nations General Assembly (UNGA) voted with a huge majority (116 out of 193 members) to demand that the U.K. “withdraw its colonial administration” within six months over the Chagos archipelago in the Indian Ocean in favour of Mauritius.
- The archipelago is better known for hosting the U.S. military base at Diego Garcia. The non-binding vote was a rebuke to the U.K.

Historical background

- For several decades the Chagos archipelago has been the cause of a dispute between Mauritius and the U.K., over the decision in 1965 to separate Diego Garcia from the rest of the archipelago for setting up the military base, in collaboration with the U.S. Mauritius, a British colony, achieved independence in 1968 but the U.K. refused to return the Chagos archipelago, claiming sovereignty over the islands.
- The U.K. depopulated Diego Garcia by expelling all its inhabitants, to facilitate the building of the military base, paying just £4 million as compensation to Mauritius. In contravention of international human rights laws, from 1967 to 1973, the U.K. forcibly moved around 1,500 Chagossians to Mauritius and Seychelles, and prevented them from returning to their homes.
- The dispute festered over the decades, with Mauritius, as per its Constitution, rightly claimed sovereignty over Chagos and challenged the U.K.’s stand.

Resolving Deigogarcia

- The U.K.’s decision to depopulate Diego Garcia was an egregious example of **human rights** violations. India can utilize the link with the theme of common wealth nations to resolve the issue.
- India’s relation with the U.S. (Defence technology trade initiative), India as a strategic defence partner can be utilized to solve Deigogarcia issue.
- India-U.S. defence ties have also progressed significantly with the signing of the Logistics Exchange Memorandum of Agreement, which provides mutual access to the armed forces of the two countries to selected military facilities.
- The other significant bilateral agreement is the Communications Compatibility and Security Agreement, which facilitates encrypted communication between the two militaries.
- These developments have a bearing on Diego Garcia and India’s more nuanced view on this military base.
- Eventually, the issue of sovereignty will have to be finessed by agreements that allow continuation of the military base at Diego Garcia with guarantees that Mauritius will retain sovereignty over the Chagos archipelago.
- It would be best for London to step back and hand over sovereignty to Mauritius and simultaneously work out the leasing arrangement with the U.S. India can play a pivotal role in bringing such an agreement to fruition.

The Indian Prime Minister's visit to Male and Colombo offers the opportunity to consolidate India's influence in Indian Ocean Region. Comment.

KEY POINTS

- The visit to Male and Colombo offers the opportunity to firmly place the Indian Ocean island states into India’s regional geography.
- Prime Minister outlined an Indian Ocean strategy called SAGAR (Security and Growth for All in the Region).

- Prime Minister must now expand the ambit of the strategy to draw in Madagascar, Comoros, Reunion and Diego Garcia. Reunion is part of France and Diego Garcia hosts a major American military facility.
- Similarly, Delhi should focus on a number of small islands that dot the sea lines of communication in the eastern Indian Ocean the Cocos and Keeling islands belonging to Australia.

Ideas to improve India's Influence in IOR

- India needs to recognise that island states and territories including the smallest pieces of real estate are coming into strategic play amidst the return of great power rivalry to the littoral.
- The island states in the south western Indian Ocean form a coherent group and must be dealt within an integrated framework.
- In eastern Indian Ocean, a focus on developing the Andaman Islands opens up possibilities for sub-regional cooperation with Thailand, Indonesia and Singapore.
- India needs to develop its own national capabilities especially in the delivery of strategic economic and security assistance to the island states.
- Without that the ambitious goals identified under the SAGAR vision will remain elusive.
- Finally, in his SAGAR vision, Modi signalled India's readiness to work with other powers in promoting regional prosperity and security.
- The joint bidding by India and Japan for the development of East Container Terminal in the Colombo port underlines the potential.

Discuss the factors which obstructs the development of SAARC. Explain the potential of the organisation in integrating south asian region.

KEY POINTS

Factors affecting the development of SAARC

- SAARC's biggest failure, however, comes from the political sphere, where mainly due to India-Pakistan tensions.
- Terrorism emanating from Pakistan is clearly the biggest stumbling block cited by the government.
- Withdrawal of MFN status by India, blockage of trade along the Line of Control.
- Prime Minister of India cancelled his attendance at the last planned SAARC summit in Islamabad in 2016, after the attack on the Indian Army's brigade headquarters in Uri. Afghanistan, Bangladesh and Bhutan followed suit.
- SAARC, which has never presumed to resolve bilateral issues of its members.
- SAARC is one of the least integrated region according the world Bank. SAARC becoming defunct is the logjam because of Pakistan's opposition to connectivity projects such as the Motor Vehicles Agreement (MVA), energy sharing proposals.
- Lack of industrial and economic corridors in the region.

Potential of the SAARC

- SAARC, as an organisation, reflects the South Asian identity of the countries, historically and contemporarily. This is a naturally made geographical identity.
- Equally, there is a cultural, linguistic, religious and culinary affinity that defines South Asia.
- Each area has seen modest but sustainable growth in cooperation. For example, from 2010, when the South Asian University began in Delhi.



- Going forward, SAARC could adopt the “ASEAN minus X” formula, members who are unwilling to join the consensus can be allowed to join at a future date.
- SAARC could be a common platform to demand more sustainable alternatives for development, or to oppose trade tariffs together, or to demand better terms for South Asian labour around the world.

Shanghai Cooperation Organisation’s membership for India has a crucial role in global geo-politics but contradictions do exist. Critically Analyse

KEY POINTS

India’s role in Global geo-politics

- Russia officially supported India’s ambition to join the SCO. China then asked for its all-weather friend Pakistan’s entry, platform for India-Pakistan-China to cooperate at global level.
- Tashkent-based Regional Anti Terror Structure (RATS), a stable Afghanistan too is in India’s interest, and RATS provides access to non-Pakistan-centred counter-terrorism information there.
- Connectivity is important for India’s Connect Central Asia policy. Energy cooperation dominates its interest and it’s in China’s neighbourhood. SCO membership also bolsters India’s status as a major pan-Asian player,

which is boxed in the South Asian paradigm.

- The US’ power struggle with China, exit from the Iran nuclear deal JCPOA (affects India’s oil imports from Iran), and adversarial attitude towards Russia (affects India’s defence purchase like S-400) have forced India to choose sides.
- “Shanghai spirit”, which emphasises harmony, non-interference in others’ internal affairs, and non-alignment. The bottomline is that it helps India keep all options open in terms of international partnerships.

Contradictions

- India must act as a willing partner of regional cooperation led by China and Russia, on the other it must avoid being seen as a part of the anti-American.
- India wants to fight against terrorism through a body that includes states that pose the biggest threats to Indian security.

The Green Movement is an important moment in Iranian history and a milestone in the history of non-violent initiatives. Elaborate

KEY POINTS

- The state authorities were challenged by what came to be known as the “Green Movement”, the biggest non-violent challenge to Iran’s rulers since they gained power in 1979, in a non-democratic manner.
- Now understood as a Gandhian moment in post-revolutionary Iran, young men and women from all walks of life protested for fundamental changes in the leadership of the Islamic Republic, its economic system, and many other civic issues.
- The demonstrators condemned violence and the exercise of power without ethics by the authorities.
- The non-violent action by the Iranian Green Movement was proof of a new political maturity and moral integrity.
- The Green Movement chose civil disobedience, particularly silent demonstrations, to unify people, which gave it a “Gandhian” tone.
- This rather spiritual and peaceful spirit of the Green Movement that saw the participation of a large number of young Iranians, was a huge motivation for the young Arabs.
- The Green Movement was quickly crushed by the authorities.



- But the Green Movement is viewed as a promising indigenous movement for democracy.
- The idea of the Green Movement as a democratic learning community has not disappeared.
- Young Iranians will continue to read Gandhi in Tehran, though it may take another generation to make the Gandhian dream of non-violent political change a reality.

How does rising USA-Iran tensions impact India in various ways? What India should do to handle the outcomes? Explain

KEY POINTS

Rising US-Iran tensions could have disruptive consequences for India.

Economic tensions

- USA could easily launch missile attacks on oil tankers in the Straits of Hormuz through which almost a fifth of the world's oil supplies flow.
- Oil supply for India dwindles, and rise in inflation in Indian economy.
- There's deep uncertainty around the future of Chabahar port being developed with the Iranians that would give India a new route into Afghanistan and Central Asia.

Military tensions

- Tehran for not downing a US military plane with dozens of personnel aboard.
- US sought to bring troops from conflicts in Afghanistan and Iraq, and is apparently uneasy about opening a new theatre of conflict and the prospect of retaliation against US targets across the troubled region.
- The Iranian armed forces are said to have built up a formidable arsenal of missiles that could be used to attack shipping from long distances.
- This can affect exports from India to Iran and also affects soft power matrix, especially in making a neutral stance in global geo politics.

Impact on India's Foreign policy

- Look West policy of India will be in danger as tensions are escalating, withdrawal of US from P5+1 agreement.
- The Iranians have warned its stock of uranium is about to exceed limits set by the 2015 nuclear deal.

India's role to minimize the crisis

- Diplomatic negotiations with Iran and USA at executive and non-executive levels without interfering in their political matters.
- Getting help from big powers like Russia to intervene and resolve the crisis.
- Effective usage of India's soft power matrix.
- Appointing specialized, experienced and dedicated diplomats to handle the situation.

India's step towards getting a non-permanent seat on the UNSC will help in playing greater role in building social capital among nations. Comment

KEY POINTS

Yes, India's permanent seat helps to play greater role in building social capital among nations.

Reasons

- Afghanistan allowed India to take the UNSC non-permanent member seat, shows the relevance its Neighborhood first policy.



- This is further fuelled by the role of I.K. Gujral doctrine which helps in building greater trust among south Asian nations, principle of non-reciprocity, non- interference strategies working well for India.
- India has a unique role to play at the UNSC, given the near-complete polarisation among the permanent members (P-5 nations), with the U.S., the U.K. and France on one side, and Russia and China on the other. India's ability to work with both sides is well known.
- India has established strong relationship with permanent members like China, Russia, USA.
- Panchsheel agreement helped to lay strong foundation to engage with China constructively.
- Moreover India enjoys friendly relationship with Russia, ever since the disintegration of USSR in 1992.
- USA has declared India as a major strategic partners shows the kind of confidence USA on India.
- India's high degree of soft power matrix exercised by Ministry of External affairs acts as glue to coordinate with UNSC permanent members.
- Further, the tool helps to build confidence, trust among nations to resolve the existing crises peacefully.

GS PAPER - III

11. AGRICULTURE

What is meant by agricultural development? How NGOs help in supporting farmers across the states ensuring agricultural development? Discuss

KEY POINTS

Agricultural Development refers to efforts made to increase farm production in order to meet the growing demand of increasing population.

Role of NGOs

- **Spread NE** is encouraging the youth to make their foray in the field of organic farming by making the occupation attractive.
- Some of these commandos go on the ground directly and teach farmers scientific techniques while others ensure that farmers are 'adopted' by urban families.
- Spread NE attracts Green Commandos not just from Assam but also from Manipur, Nagaland, Mizoram and from other parts of India.
- For those commandos who live in or have ties with urban families, their 'mission' is to promote the consumption of local, indigenous and organic food among them.
- **AHIMSA** (All human integrated meritorious social awareness) which provides services towards alleviating poverty and agricultural development in rural areas.
- AHIMSA supports Farmer producer organisations across various states.
- After the recommendations of AHIMSA team nanguneri farmers from Tirunelveli district were able to improve their annual yield from 10 tonnes per acre in 2015 to 40 tonees per acre in 2018.

The agricultural credit policies of the Indian Government haven't immensely contributed to the agricultural growth. Comment

KEY POINTS

- Agricultural credit policies of successive governments have resulted in increase in institutional lending to agriculture over the years.
- The direct institutional credit for agricultural and allied activities increased from ₹1,053 billion in 2004-05 to ₹7,301 billion in 2013-14 to ₹10,911 billion in 2017-18.



Credit intensity

- The total direct institutional credit for agriculture and allied activities increased almost consistently from 18.55 per cent of agricultural gross value added (GVA) at current prices (new 2011-12 series) in 2004-05 to 26.57 per cent in 2008-09 to 37.90 per cent in 2013-14 to 40.86 per cent in 2017-18.
- The 'credit intensity' of agriculture has increased tremendously over the years, agricultural credit has become less efficient in delivering agricultural growth

Empirical evidence

- A Reserve Bank of India study covering the period from 1988-89 to 2010-11 found that there is no statistically significant causal relationship between agricultural growth and credit cycles in India.
- This suggest that the ability of credit to induce agricultural GDP growth is limited.

For better credit disbursal and agricultural growth

- Strict monitoring of agricultural credit utilisation at the ground level.
- They include productivity increases, expansion of infrastructure, higher public expenditure on agriculture and allied services, effective extension services, sound institutions, and export competitiveness.
- A notification issued by the RBI in this regard to public sector banks had advised the latter to ensure that all farm loans meet certain criteria.
- They mainly include limiting the disbursement of farm loans only to an agriculturist, ensuring that the loan is used for the stated purpose, and verifying that disbursal and recovery of farm loans follow seasonality pattern.
- To a larger extent, these tasks could be carried out using technology such as analytic software, which is made possible today as all major banks in India follow the Core Banking Solution system.

12. INDIAN ECONOMY

In Indian economy, the contribution of trade to GDP has been showing declining trend. Discuss the remedial measures that Government of India should take to reverse the trend.

KEY POINTS

- The Indian economy had a better-than-average export performance in 2018-19.
- But the contribution of trade to GDP has also reduced with every passing year.
- This is the ill for the economy and may seriously slow down our growth, unless robust remedial steps are taken.

Remedial measures

- Diversify into high-technology products, while enhancing the competitiveness of our existing export basket.
- Moving into high-technology and high value-added items would require the acquisition of such technology.
- The short-term solution to this is to identify a few champion sectors and provide attractive incentives to transnational corporations, which own advanced technologies, to set up their manufacturing bases in India.
- The long-term plan should be to invest significantly in research and development so that we could, eventually, be the owners of cutting-edge technology and one of the global industry leaders.
- Bbecause of the resource constraint in providing incentives, we will have to select only those sectors that are going to occupy a significant chunk of global trade over the next few decades.
- Electronics, including medical instrumentation, is one such sector. New technology storage batteries and renewable energy, and pharma and biosimilars could be the other two.



- Our clothing sector suffers from a lack of scale. While export-oriented factories in China, Vietnam and Bangladesh employ more than 5,000 people under one roof, our largest factory barely reaches 5,000 workers.
- Fragmentation and technological unawareness of the sector, which is a major supply side constraint.
- With growing wages, China is relocating many garment factories involving low investments and technology to Vietnam and Cambodia (and to some extent Bangladesh).
- However, for the time being it is retaining its more capital-intensive textile mills, which yield higher value addition, to supply fabrics to these countries.
- This shift poses an opportunity for India to overcome its deficiencies. We need to undertake land and labour reforms in close collaboration with the states so that we can attain global standards of scale.
- We need to enhance worker productivity by undertaking more training programmes.
- Providing a larger ceiling to banks (especially public sector banks) for financing exports and providing appropriate instruments to reduce the risks are needed to present Indian exporters with a level playing field.
- More infrastructure such as roads, railways and ports can reduce transaction costs.

How India can balance the trade-off happening between the energy sector and environment protection? Elucidate

KEY POINTS

Integrate energy and environment policy

The various ministries currently engaged with energy and the environment should be collapsed into one ministry of energy and environment.

- This will result in unified approach to energy policy and enable the new government to view the sector through an integrated and holistic view.
- It could more easily track and evaluate the systemic implications of changes in any one or more component variables.
- Energy and Environment Security Act should be passed at the earliest possible opportunity.
- The objective of such an Act should be to bring energy and environment into the national narrative; to set out the roadmap for managing and mitigating the emergent challenge of balancing economic development and energy demands with the goal of environmental protection.
- The government should establish an integrated energy data centre, whose data should be regularly updated and made available to all players on commercial terms.

Decarbonise

The focus should be on generating electricity from solar and wind, incentivising electric vehicles, curtailing diesel consumption in agriculture, enforcing standards and emission norms.

- The 'clean energy fund' that is currently funded through a cess on coal production and is managed by the ministry of finance should be augmented through the issuance of 'green bonds' and a clean energy tax.
- This to intensify research and development in clean energy technologies (for example, battery storage, carbon capture).
- Safeguarding the funds from sequestration into the consolidated fund, and to ensure that conditions are created for incubating innovation and forging international R&D and technology partnerships.

Energy diplomacy

- The government should, therefore, look to develop a specialised cadre of 'energy diplomats'.

- It should contemplate lateral entrants at mid- and senior levels of government with relevant domain and international expertise.
- It should unwind the energy public sector units from intrusive bureaucratic oversight to enable their management to respond with unexpected market developments.
- It should establish strong personal relations with the leaders of oil-exporting states.

Increase competition

- Every player, private or public, must have equal access to gas pipelines.
- The price of gas should be determined on the basis of market and competitive principles.
- This principle should apply across the gas value chain, except pipeline transport tariffs, which should be linked to return on capital.
- A gas trading hub should be expeditiously established.
- Special energy courts should be established to expedite adjudication of disputes and ensure sanctity of contracts.

What is meant by XBRL reporting standard ? Does the adoption of XBRL by government of India ensure the effectiveness of government spending? Discuss

KEY POINTS

XBRL is an open source information reporting standard through the adoption of which you can cut government flab and more significantly, ensure the effectiveness of government spending.

Ensures effectiveness in government spending

- The elimination of red tape.
- Businesses saved money through a reduction in regulatory burden, while the government saved money by delayering the bureaucracy engaged in regulatory oversight.
- The big value of the adoption of XBRL in India will stem from plugging the leakages in government spending.
- By moving from document based submission to data filings, which is what XBRL will entail, the government will simply tighten oversight.
- This makes it possible for the government to act speedily and expeditiously against those that are not spending the funds right.

In India, the Ministry of Corporate Affairs and the RBI have both adopted XBRL, though it is the RBI that has benefited the most.

- The benefits are seen in automation, cost saving, faster, more reliable and more accurate handling of data, improved analysis and in better quality of information and decision-making.
- All types of organisations can use XBRL to save costs and improve efficiency in handling business and financial information. Because XBRL is extensible and flexible, it can be adapted to a wide variety of different requirements.”
- The use of XBRL has made it expensive for banks to hide their NPAs. Without a doubt, the oversight of banks by the RBI has been greatly strengthened by the adoption of XBRL.

The time has come to consider mainstreaming XBRL across the entire government, across all departments, and across all ministries.



India needs a comprehensive policy on cluster based modern industries for better growth trajectory in the manufacturing sector. Explain

KEY POINTS

- The contribution of manufacturing to GDP in 2017 was only about 16 per cent, stagnating since the economic reforms began in 1991.
- If India is to create manufacturing jobs for the 5-7 million joining the labour force each year, India needs a serious policy for modern industry clusters, with a focus on brownfield (not just greenfield) sites.

Stimulation cell

- For this purpose, the Planning Commission (2013), in the 12th Plan, made an excellent recommendation to set up a Cluster Stimulation Cell at the apex level in the MSME Ministry, that will work to promote cluster associations.
- This requires funds. Effective cluster development has been very important to China's industrial development (as well as in late-industrialiser Italy). There are as many as 100 clusters in China only producing socks!
- Poor infrastructure in these urban locations has to be addressed.

Credit availability

- In other words, focus AMRUT funds to towns with manufacturing clusters. This should include digital infrastructure, which can help small firms eliminate intermediaries, thus raising firms' revenues.
- The modern industry clusters will need much greater access to institutional sources of credit. The limited resources of the Small Industries Development Bank of India (SIDBI) cannot suffice.
- But government needs to employ blockchain technology to help SMEs in such clusters in financing.
- Thus Mahindra Finance, currently uses blockchain in SME financing by connecting suppliers, OEMs, and financiers for sharing data securely over the network chain to request and approve transactions.

The skills factor

- Raising cluster productivity requires skills. At local cluster level there are few vocational or training centres available. If new vocational education/training were focussed at cluster level, newly educated youth will get employment at cluster level, close to their homes.
- Gender parity at secondary level with GER at 80 per cent now requires a new focus on vocational training at cluster level to make these boys and girls employable.

Online trade

- Brownfield clusters could benefit hugely from the spread of internet and online sales to utilise the educated youth in rural/semi-urban areas.
- Online trade is an example of how technology shapes the geography of jobs. Technology can enable clusters of business to form in under-developed and rural areas.
- India's smartphone users are upwards of 350 million at present, and e-commerce can enable MSMEs to access larger markets and source cheaper inputs.

What is meant by Banking cash transaction tax? Does its introduction is a step towards attaining the goals of digital economy? Comment

KEY POINTS

Banking Cash transaction tax is a tax of 3-5 per cent on cash withdrawal of Rs 10 lakh in a year, a move to discourage cash usage in the economy and resultant black money. It is direct tax leviable on banking cash transactions.

It is not a good step towards attaining the goals of Digital economy

- After GST, the government has a mine of information on people's incomes and revenues which needs to be mined assiduously.
- Then, there is the data the taxman gets from **Operation Insight** which is a linking of various databases on the purchases of jewellery, automobiles, property, credit card payments, airline tickets, etc.
- With each bank account in the country mandatorily linked to a PAN, the government can always ask the banks to generate a list of cash withdrawals beyond a certain amount from banks.
- Each PAN card has to be linked to an Aadhaar number, bank managers can be asked to conduct periodic scans to weed out fake PANs.
- More important, the government claimed that, as a result of demonetisation, it had collected a wealth of information on people; and these can be used to track tax evaders easily rather than introducing BCTT.
- At the time of demonetisation, the government claimed it had identified 23.5 lakh PANs that appeared suspicious the cash deposited wasn't in keeping with their known sources of income.
- So another information source is clearly not needed to crackdown on black money.

Discuss the inputs and ideas that are required to have a secured digital space and prosperous digital economy.

KEY POINTS

To have a prosperous digital economy and reclaim our digital space we need

1. e-commerce policy

- Quickly introduce central laws regulating e-commerce, data protection, data localisation, cyber security, etc, on the lines of Global data protection policy of European union.
- New draft e-commerce policy is a welcome step.
- Clear laws with proper regulations on data flow will signal global and local firms to invest in India.

2. Technological capabilities

- Set up free email service, and create an India focussed search engine.
- Invest in high capacity cloud servers, and make them available at low prices.
- Hosting on Indian servers must be attractive for local businesses.
- NIC has the expertise and already developed many platforms for government uses.
- The government may revive NIC, hiring the best talent for AI research and other vital areas.

3. International Co-operation

- Create a coalition of like-minded countries.
- Countries still do not grasp the significance of data flow, server localisation, etc.
- India must educate them. Once our laws and platforms are ready, we may take the call to join any international negotiations.

4. Awareness about joining negotiations

- The US uses grants, diplomacy, threats and sanctions to pursue its agenda.
- Today, only 73 of the 164 WTO members support negotiations on e-commerce.



- If India, viewed as a software giant, joins, all remaining countries will participate.
- This will soon ensure the de facto dominance of the US in digital business becomes de jure.

5. Good Governance

- India needs to effectively implement the already existing policies like Digital India, Smart cities initiative along with awareness of cyber security to software professionals.
- Securing the digital space by placing the servers within India by developing the technology of cloud computing.

Digital business accounts for a third of global GDP now, and its share will only increase. Reclaiming our lost digital space should be our top priority as best jobs and high growth would flow from this.

Discuss the strategies that are required to reinvent the framework of fiscal federalism in India.

KEY POINTS

Imbalances in Fiscal Federalism

- A vertical imbalance arises because the tax systems are designed in a manner that yields much greater tax revenues to the Central government when compared to the State or provincial governments.
- But the Constitution mandates relatively greater responsibilities to the State governments.
- The horizontal imbalances arise because of differing levels of attainment by the States due to differential growth rates and their developmental status in terms of the state of social or infrastructure capital.

Understanding the imbalance

- The adequate provision of basic public goods and services- Union Finance Commission
- Acceleration of growth infrastructure or the transformational capital deficits – NITI Aayog.

Strategies

- NITI Aayog is primarily a think tank with no resources to dispense, which renders it toothless to undertake a “transformational” intervention.
- Towards this task of cooperative federalism, NITI Aayog 2.0 should receive significant resources (say 1% to 2% of the GDP) to promote accelerated growth in States that are lagging, thus reducing the developmental imbalance.
- NITI Aayog 2.0 should also be mandated to create an independent evaluation office which will monitor and evaluate the efficacy of the utilisation of such grants.
- The same perspective will have to be translated below the States to the third tier of government.
- Decentralisation, in letter and spirit, has to be the third pillar of the new fiscal federal architecture.
- One of the ways for this is through the creation of an urban local body/panchayati raj institutions consolidated fund.
- This would mean that Articles 266/268/243H/243X of our Constitution will need to be amended to ensure that relevant monies directly flow into this consolidated fund of the third tier.
- Through such constitutional amendments, the Centre and States should contribute an equal proportion of their Central GST (CGST) and State GST (SGST) collections and send the money to the consolidated fund of the third tier.
- For instance, one-sixth sharing of the CGST and SGST with the third tier can generate more than 1% of the GDP every year for the financing of public goods by urban-level bodies. Such an arrangement will be the third pillar of fiscal federalism.



- Further, the State Finance Commissions should be accorded the same status as the Finance Commission and the 3Fs of democratic decentralisation (funds, functions and functionaries) vigorously implemented. This will strengthen and deepen our foundational democratic framework.
- GST needs further simplification and extended coverage. We need to quickly achieve the goal of a single rate GST with suitable surcharges on “sin goods,” zero rating of exports and reforming the Integrated Goods and Services Tax (IGST) and the e-way bill.
- The GST Council should adopt transparency in its working, and create its own secretariat with independent experts also as its staff. This will enable it to undertake further reforms in an informed and transparent manner.

The contribution of India's GDP by the manufacturing sector remains more or less stagnant due to lack of entrepreneurial growth and development in MSME sector. Examine

KEY POINTS

India's micro, small and medium enterprises (MSME) sector, known as its engine of growth, contributes 31 per cent of its GDP, 45 per cent of exports, employs over 124 million people and creates nearly 1.3 million jobs every year.

Constraints in the MSME sector

- The absence of adequate and timely bank finance,
- High cost of credit,
- Non-availability of suitable technology,
- Over-regulation impede the growth of this sector,
- Lack of skills that meets the requirements of Industry,
- Lack of comprehensive exit policy.

Government therefore should increase the employability and productivity of MSME sector to improve its share of MSME's in contributing to the share of India's GDP in Manufacturing.

Government should focus on the following measures for betterment of MSMEs.

Availability, interest rates

- The RBI should consider a minimum of 200 basis point reduction in rates and enable banks to triple credit growth to MSMEs.
- To create the industries of the future, access to long term funding is crucial at competitive interest rates.
- By offering differential Cash Reserve Ratio and Statutory Liquidity Ratio for banks lending to the MSME sector, improving credit availability and taking remedial measures to enhance the effectiveness of the Credit Guarantee Scheme.

Imparting skills

- Augmenting human capital via vocational education and providing practical knowledge along with hands on experience in the desired field will meet the requirements of the Industry.
- Pradhan Mantri Kaushalya Yojana should be implemented effectively at all levels for this purpose.

Labour laws

- Formalization of work force by simplifying the complex procedures in labour laws.
- Wage code bill 2019 tabled in the parliament need to be implemented in a timely manner.

Investing in research and development

- Improved interface between industries and universities to create an enabling environment for research.



- Identifying talents and making them as job creator rather than job keeper.

13. SCIENCE AND TECHNOLOGY

Why India lags in implementation of 5G despite the government's stated interest in establishing a lead? What Government of India needs to do for implementing it effectively? Discuss

KEY POINTS

5G is a mix of telecom technologies¹ delivering much higher data speeds on more extensive connectivity, using much lower power, with extended battery life, and emitting less radiation, for ways to connect and operate most of the conveniences people use regularly.

Reasons for lagging in implementation

- The catch is that 5G is at an early stage in a long process perhaps a couple of years to manifest in large trials in India, and several more years to be widely available, needing huge investment (\$100 billion in India).
- The sobering financial condition of India's communications industry gives pause. Financial capacity revenue generation and access to capital, both equity and debt at favourable terms is required to develop capabilities.
- After the telecom price wars, even Reliance Jio is reportedly cutting staff. Airtel, meanwhile, having invested heavily in 4G infrastructure, has stated its unwillingness to bid for 5G spectrum unless prices are lower.
- The government set up a committee for 5G in September 2017 with a steering group chaired by emeritus professor at Stanford Arogyaswami Paulraj, a pioneer in wireless communications.
- This committee recommended network deployment as the immediate priority, i.e., rolling out early, efficient and pervasive 5G networks. Technology design and manufacturing capacity were recommended for later phases.
- But network deployment needs policy support, especially for a debt-encumbered sector faced with declining revenues per user, and unused, inaccessible spectrum, even as other countries enhance their lead.
- Government policies have not succeeded in coordinating our reservoir of human resources and potential.
- India lags in 5G despite the government's stated interest in establishing a lead. Spectrum allocation and large trials were scheduled towards the end of 2019, and auctions in 2020.

Initiate a breakthrough

The government can catalyse a breakthrough by doing the following:

- Reduce borrowing costs and taxes for communications as infrastructure. This aim of the National Telecom Policy 2012 (NTP-2012) has been ignored.
- Provide adequate spectrum aligned with global allocations. Given India's low fibre penetration and need for digital technology, allow shared access to all spectrum and infrastructure, with charges for usage based on revenue sharing.
- Clear administrative impasses through coordination and due process without delay. For example, allocate spectrum immediately for 12 months for trials.
- To succeed with Digital India and 5G, government can begin by classifying communications as infrastructure, and adopting the approach taken for 5 GHz Wi-Fi.
- Use spectrum and network sharing to leverage equipment and spectrum fully; support local technology champions such as a fabless chip design unit and a network equipment manufacturer in Bangalore, and a wireless equipment manufacturer in Delhi; and focus only on delivery with sustainable revenue generation.



Chandrayaan-2 of ISRO has its own uniqueness and is expected to offer great scientific insights. Explain

KEY POINTS**Uniqueness of Chandrayaan – 2**

- Chandrayaan-2 consists of an Orbiter, Lander and Rover, the Lander and Rover modules will separate and make a soft-landing on the surface.
- ISRO has named the Lander module Vikram, after Vikram Sarabhai, and the Rover module Pragyaan, meaning wisdom.
- It is the first time that ISRO is attempting to soft-land a module in extra-terrestrial space.
- Chandrayaan-2 will make a landing at a site where no earlier mission has gone, near the south pole of the Moon.

Scientific insights

- The 1471-kg Lander, which will remain stationary after touching down, will carry three instruments that will mainly study the moon's atmosphere. One of these will also look out for seismic activity.
- Lander and Rover are equipped with different kinds of camera to take create high-resolution three-dimensional maps of the surface.
- It also has instruments to study the mineral composition on moon and the lunar atmosphere, and also to assess the abundance of water.
- So far, all landings, human as well as non-human, have been in areas close to the Moon's equator.
- The south pole of the Moon holds possibility of presence of water. In addition, this area is also supposed to have ancient rocks and craters that can offer indications of history of the Moon, and also contain clues to the fossil records of early solar system.

What is meant by jumping genes? Discuss its role in transforming the process of gene editing technology.

KEYPOINTS

A **transposable element (TE, transposon, or jumping gene)** is a DNA sequence that can change its position within a genome, sometimes creating or reversing mutations and altering the cell's genetic identity and genome size.

The jumping gene possesses all the necessary chemical properties to directly insert, or integrate without a DNA double-strand break.

Role in transforming gene editing

- A key tool for editing is the CRISPR-Cas9 process, which uses CRISPRs a part of the immune defence system in bacteria -- to locate a target in the DNA, and the protein Cas9 to "snip" the DNA strand.
- The DNA then repairs itself, sometimes guided by a template that is inserted during the editing process.
- But the process is not always effective -- sometimes the repairs are incomplete, or incorrect, and the damage response prompted by the cutting can have negative side effects.
- Jumping genes, also known as transposons, can effectively slide into the DNA without cuts i.e 'Incredible precision'
- Sidestep all that complexity, and you obviate the need for a DNA break.
- Scientists found that the jumping gene could effectively be programmed with a guide so it can insert itself with incredible precision into user-defined sites in the genome.



- That means scientists can ensure the edits are made in the correct place and the correct way, and frees them from relying on the DNA's own repair mechanism.
- The researchers found the jumping gene was capable of depositing genetic cargoes into the genome delivering sequences up to 10,000 bases long.

In the context of Globalization, crypto-currencies in India needs regulation, rather than outright criminalisation. Examine

KEY POINTS

- The Centre's reported plans to criminalise crypto currencies 10 years in jail for holding, selling or dealing in crypto currencies seems so harsh.
- If implemented, it can send wrong signals to investors, geeks, digital entrepreneurs and technologists on India's understanding of not only cryptocurrencies but also on how we look at blockchain, the ground-breaking technology that powers cryptocurrencies.

Unpopularity of crypto currencies

- Cryptos are feared not just for their sheer speculative propensities, but also for their capacity to undermine sovereign currencies (the latter is an exaggerated apprehension).
- A currency that is not based on any real economic activity.

Needs regulation

- There are no official or other data available that point towards misuse of cryptocurrencies for illegal ends.
- In India, an estimated 30 lakh Bitcoins are reportedly in circulation. From a value of a little over Rs. 60,000 at the start of 2017, the Bitcoin now commands a value of nearly Rs. 6 lakh, with a global market cap of \$10.2 trillion.
- Cryptos are recognised in the US as an asset class. Firms like Paypal, Uber, Visa and Mastercard have all signed up as part of the consortium to control it, these firms are also established in India.
- Hence usage of crypto currency become relevant.
- Criminalising possession of cryptocurrencies will impact such investments. Bankers and investors now consider the cryptocurrency market at par with derivatives. The NYSE plans Bitcoin futures through a platform called Bakkt.
- Cryptos are an alternative asset to fiat currencies; controlled by none, they cannot be manipulated by governments with vested interests.

Legalising the cryptomarket can help beneficiaries emerge from the shadows and make productive investments in an economy witnessing a digital transformation.

India's proposed indigenous space station needs to have support from international collaboration and participation from private sector. Comment.

KEY POINTS

Yes, India needs a support from international collaboration and private sector

Reasons

- India's space station is expected to be very small with limited utility. It would be placed in an orbit, 400 km above earth.
- ISRO has mentioned it would start planning for the station only after the successful completion of a manned space flight, slated for 2022.
- ISS is now in the last leg of its existence and is expected to become redundant during 2024-28.



- India could not have been a part of the ISS in its heyday since it was excluded from such projects because of Delhi's nuclear policy; ISRO and DRDO were taken out of the export control list only in 2011. So Indian needs support from other countries.
- Chinese space station (Tiangong programme) is likely to be a 80-tonne station. India is proposing a 20-tonne station to serve as a facility where astronauts can stay for 15 to 20 days.
- India is planning for a very small space station. India needs additional infrastructure and technology to expand the scope of research and development in space technology.
- There is a need for ISRO to learn from the past experiences of missions to the Moon and Mars. These missions offered limited scope for scientific experimentation since India's heavy satellite launch vehicle, GSLV, was not ready in time, and ISRO could not send heavier scientific payloads.
- But with India making a breakthrough with cryogenic technology, ISRO is expected to have better options by the end of next decade to carry a heavier payload to the low earth orbit.
- Cost consideration could emerge as a major issue. So, India must involve the private sector in such projects.
- Recently, NASA has declared that the ISS would be open for commercial business and people could "purchase" a ticket to visit ISS. India could think of developing such projects under a public-private partnership model.
- Major projects like the space station are national projects. They may not offer any immediate scientific/technological benefits, but investments must be sustained. Private industrial houses within India should be encouraged to participate in such projects.

***Why the Indian government's intention towards data protection lie in favour data localisation?
Explain***

KEY POINTS

India's stand on domestic policy

- India's recent drafts and statements have strong signals for data localisation, which means that data of Indians (even if collected by a foreign company) must be stored and processed in India.
- These laws, broadly speaking, could require Facebook, Google, and Amazon to store and process in India information such as an Indian's messages, searches, and purchases.
- In some cases, they restrict what type of data these companies can collect.
- In others, it requires only a copy of the data to be in the country.
- China has developed similar laws, which proponents say allow for a flourishing domestic economy of data centres and data processing by blocking foreign players out.
- So Indian companies, like Reliance and PayTM, usually support data localisation.
- The other argument from the Indian government is that localisation will help law enforcement access the data.
- Currently, India has to use "mutual legal assistance treaties" (MLAT) with the US to get the data of Indians that are controlled by American companies.
- By requiring a copy of the data to be stored in India (data mirroring), the government hopes to have more direct control over these companies, including the option to levy more taxes on them.
- The government also argues for data localisation on the ground of national security, to prevent foreign surveillance and cyber-attack.



14. ENVIRONMENT

Even as India celebrates the Swachh Bharat Mission's incredible toilet-coverage success, our rivers are prone to inadequate sewage coverage and waste processing. Elucidate

KEY POINTS

Swachh Bharat mission, a successful initiative

- The National Annual Rural Sanitation Survey (NARSS) 2018-19, conducted by an Independent Verification Agency (IVA) under the World Bank support project to the Swachh Bharat Mission Grameen (SBM-G), has found that 96.5% of the households in rural India who have access to a toilet use it.
- The NARSS also re-confirmed the Open Defecation Free (ODF) status of 90.7% of villages which were previously declared and verified as ODF by various districts/States.
- But, a study by researchers from Banaras Hindu University showed high levels of antibiotic contamination of the Ganga.
- In a country that faces a high anti-microbial resistance (AMR) risk because of rampant antibiotic abuse, such contamination points at systemic deficiencies in treating waste-water and solid waste, thereby, revealing a failure of sanitation and waste disposal policies.
- In the case of the Ganga, for instance, faecal bacteria levels were found to be above the acceptable cap at 48 out of 61 monitoring stations—this, after the government claimed that 4,465 villages along the Ganga were now open-defecation free.
- Also, an estimated 11,729 tonnes per day of municipal solid waste is generated by the 97 towns along the river.
- Hyderabad's pharmaceutical cluster now show that the large doses of man-made antibiotics in pollution hotspots like Kazipally force these environmental bacteria to evolve by boosting the numbers of resistance genes.
- The entire Patancheru region home to drug, pesticide and paint makers is considered one of the most toxic environments in the world.
- So the SBM needs to expand its goals to minimize the effect of AMR in the future.

Why the Great Indian Bustard (GIB) is on the verge of being declared functionally extinct? Discuss the measures taken by Government of India to protect the species.

KEY POINTS

- The Great Indian Bustard (GIB) is on the verge of being declared functionally extinct—its numbers have now dwindled to just 150, falling by 100 since 2011.
- The GIB, at present, is native to just two Indian states, Rajasthan and Gujarat—in Gujarat.

Significant threats to the GIB

- Reduction in the extent of undisturbed arid grassland habitat
- Degradation and disturbance in existing grassland habitat
- Hunting
- Lack of importance for natural grassland conservation in policy, law and PA network due to incorrect perception on ecological value vis-a-vis forests
- Lack of cooperation between different departments/stakeholders in GIB habitats
- Lack of awareness and support from local communities
- Livestock overgrazing and feral dogs



Measures taken by the Government

- Ex situ conservation to increase the numbers of the endangered species has been attempted and the tips of the blades of wind turbines have been coloured to make them visible to the birds at night.
- Ministry of Power has decided to put the power transmission lines underground to prevent bird-collision.
- Rajasthan became the first state in the country to launch a campaign to save the Great Indian Bustard, which is on the brink of extinction.
- Listing the species in Scheduled 1 of the Wild life protection act 1972 by MoEF.

Despite having the potential to increase the share of renewable energy in India, discoms are averse to promote roof top solar projects. Examine

KEY POINTS

Wind and solar energy in India account for about 20 per cent (70 GW) of the total installed capacity of about 350 GW, of which solar's share is 27 GW (it was just 3 GW in 2014).

Roof top advantages

- Rooftop solar is decentralised, it empowers ordinary people and communities, and does not require land acquisition.
- It will provide smaller units in particular with a cheap, reliable source of electricity.
- Discoms and the power regulator merely need to ensure that installation standards are met.

Reasons Discoms not promoting rooftopsolar

- Solar, they are able to cross subsidise in a bigger way.
- Besides, the current net metering formula in many States does not offer any gains to Discoms.
- Rooftop solar also threatens to further destabilise their finances.

Measures needed

- Withdrawing cross subsidy model.
- Net metering rules for rooftop solar should be tweaked to make them attractive for Discoms as well.
- As with renewable purchase obligations, the Discoms should be given tangible net metering targets.

With a bit of policy incentive, grid-connected rooftop solar can become a major force in sunshine-abundant India as well.

The creation of Jal Shakti Mantralaya is a forward looking governance reform which will have a positive impact on integration in the water sector. Discuss

KEY POINTS

Need for Jal Shakti Mantralaya

- The institutional landscape for water in India has been somewhat fragmented, with about seven ministries and more than 10 departments having a say on different aspects of water management and use.
- Water available per person is dependent on population of the country and for India; water availability per capita is reducing progressively due to increase in population.
- The average annual per capita water availability in the years 2001 and 2011 was assessed as 1816 cubic meters and 1545 cubic meters, respectively, which may reduce further to 1340 and 1140 in the years 2025 and 2050 respectively.
- Presently, India captures only eight per cent of its annual rainfall, among the lowest in the world.



Role of JalshaktiMantralaya

- The first concrete step taken by the central government towards a holistic and integrated perspective on water has been the constitution of the new Jal Shakti Mantralaya.
- This bold institutional step has integrated the erstwhile Ministry of Water Resources, River Development and Ganga Rejuvenation with the former Ministry of Drinking Water and Sanitation.
- This is a major step towards the consolidation of the management of water resources with delivery of drinking water and sanitation a much needed step in the direction of ensuring India's water security as well as a thrust towards the goal of providing safe and adequate piped water supply for all households.
- The Jal Shakti Mantralaya will also need to promote decentralised, but integrated, water resource management and service delivery, with a key focus on water conservation, source sustainability, storage and reuse wherever possible, by involving the communities themselves, as they are the primary stakeholders.

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