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MONTHLY MAINSTORMING

DECEMBER
2021

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INDEX

G.S PAPER I	3
1. <i>Society</i>	3
G.S PAPER II	4
2. <i>Polity</i>	4
3. <i>Governance</i>	6
4. <i>Government Policies</i>	8
5. <i>Health</i>	13
6. <i>International Relations</i>	16
G.S PAPER III	18
7. <i>Economy</i>	18
8. <i>Agriculture</i>	23
9. <i>Energy</i>	25
10. <i>Infrastructure</i>	27
11. <i>S & T</i>	28
12. <i>Environment</i>	29

MONTHLY MAINSTORMING

DECEMBER 2021

G.S PAPER I

1. SOCIETY

A comprehensive approach engaging men and boys at all levels of the socio-ecological spectrum is needed to prevent violence against women. Explain

KEY POINTS

- The Covid-19 pandemic has exacerbated the risk of VAWG (violence against women and girls).
- The latest National Family Health Survey (NFHS-5) data for India indicates that 29 per cent of the ever-married women reported experiencing spousal violence.
- Working with children during their formative years on gender equality, a time when their attitudes and behaviours are getting shaped, is an important way to address masculinity and rejection of violence.
- Life-skills education through school and community-based programmes that focus on equality, consent, respect and dignity is a critical aspect of this engagement.
- Ensuring gender sensitivity in tackling stereotypes through media, as well as increasingly involving men within the media industry is an important way forward.
- For example; a third of the winners of the 2021 Regional Laadli Media Awards for Gender Sensitivity and two-fifths of the winners of the 2021 National Laadli Media Awards.
- There is a strong need to engage men and redefine masculinity, across all sectors (including health, social services, law and order).
- The criticality of involving men and boys cannot be undermined. UNFPA works with strategic and like-minded partners on the issue of masculinity, to advance gender equality and end violence.

Do you think that raising age of marriage for women guarantee favorable outcomes for the society? Critically analyse

KEY POINTS

- If the proposal to raise the age of marriage for women from 18 to 21 years passed, various personal and faith-based laws which govern marriages in India now, including The Hindu Marriage Act, 1955, the Special Marriage Act, 1954, and the Prohibition of Child Marriage Act, 2006, will have to be amended.
- Though the objective looks good on paper, merely raising the age of marriage without creating social awareness and improving access to health care is unlikely to benefit the community it wants to serve.

- As per the National Family Health Survey (2019-2021), 23.3% of women aged 20-24 years married before 18, which shows that the Prohibition of Child Marriage Act, 2006, has not been wholly successful in preventing child marriages, especially among the poor.
- Women's rights activists point out that parents often use this Act to punish their daughters who marry against their wishes or elope to evade forced marriages, domestic abuse, and lack of education facilities.
- Hence, within a patriarchal setting, it is more likely that the change in the age limit will increase parents' authority over young adults.
- The focus must be on creating social awareness about women's sexual and reproductive health and rights, and ensuring girls are not forced to drop out of school or college.

G.S PAPER II

2. POLITY

The Government must make measures to restore the function of Indian Parliament. Elaborate

KEY POINTS

- The suspension of 12 Opposition Members of Parliament from the Rajya Sabha for the entire winter session of Parliament, evidently an extreme step by Chairman.
- A guiding principle of parliamentary proceedings is that the majority, i.e. the Government, will have its way, and the minority, the Opposition, will have its say.
- Bills are passed in a hurry and even amidst din; the scrutiny of Bills by committees and debates are few and far between.
- Also, the decision to suspend Members for their conduct in the previous monsoon session at the beginning of a new session seems excessively punitive.
- Parliament is the platform where the executive is held accountable to the representatives of the people.
- That is where people's representatives raise matters of public concern and seek the Government's attention.
- The trend of weakening that process in the name of efficiency is not merely undermining the spirit of democracy.
- Parliamentary debates should not be viewed as a distraction or waste of time; they are a barometer of public mood and must be respected as such, by both the ruling side and the Opposition.
- The absence of the Opposition will only leave the Government even more unchecked.

Do you think that repealing Armed forces special powers act will strengthen the foundation of Indian Constitution? Comment

KEY POINTS

- The Act grants extraordinarily sweeping powers to the armed forces of search, seizure, arrest, the right to shoot to kill and conduct operations in ways that make a mockery of individual rights and dignity.
- The physical and psychological costs to the armed forces are immense and they create pressures for providing legal protection.
- The repeal of AFSPA is necessary not just for restoring constitutional sanity, but also as a way of acknowledging the brutally dark history of our conduct in Nagaland.
- India's handling of the Naga insurgency has been a mixture of brutal repression, accommodation, betrayal, negotiation and bribery.
- The political incorporation of Nagaland (and all other areas where this law applies) will be set back if the guarantees of individual dignity of the Indian Constitution are not extended.
- Even though the Army has officially opposed its repeal, AFSPA has been counterproductive for the Army in three ways.
- Giving wide immunity to the forces can distort the choice of strategy in counter insurgency operations:
- Wider immunity can often reduce rather than increase the professionalism of the forces.
- Central dominance in a way that undermines both Indian federalism and operational efficiency.
- The existence of those powers is an affront, and they create a culture of fear, interdiction, humiliation and violence.

Over representation of minorities in prisons continue to be a cause of concern for the country. Substantiate

KEY POINTS

- The National Crime Records Bureau (NCRB) reports show that in almost all the states of the Indian Union, irrespective of the party holding office, religious minorities are over-represented in jail.
- In Assam, Muslims, according to the 2011 census, are 34 per cent of the population and they represent 43 to 47.5 per cent of the "undertrials";
- in Maharashtra, Muslims are 11.5 per cent of the population, and their percentage among the "undertrials" peaked at 36.5 per cent in 2012 (it went back to its 2009 level, 30 per cent, in 2015);
- The over-representation of Muslims in jail is to some extent a reflection of the communal bias of the police.
- In many states, the percentage of "convicted" Muslims is much lower than their percentage amongst "undertrials".

- These data show that when the judiciary, at last, take up the cases of many “undertrials”. the judges realise that there is not enough evidence and they release people who have spent a lot of time
- This is a clear indication of the communalisation of the police that tends to prevail, irrespective of the ideology of the ruling party.
- One of the only ways to correct this state of affairs could be the recruitment and promotion of policemen from minority communities.

Do you think that after the Reorganization Act union territory Ladakh has limited participatory democracy? Comment

KEY POINTS

- Just a day before the Jammu and Kashmir Reorganisation Act of 2019 was passed, Ladakh enjoyed a classical three-tier administrative system.
- The Autonomous Hill Development Councils of Leh and Kargil read along with the framework of J&K’s special status and its bicameral legislative system gave Ladakh autonomy and participatory democracy.
- The Hill Councils, the biggest elected bodies in Ladakh, were further enabled by the State government through the State Assembly and both the institutions worked in a synchronised manner.
- The Hill Councils had the powers over land in Ladakh while the majority of the bigger concerns regarding land remained protected under Article 370 and J&K’s robust land protection laws.
- There is no Public Service Commission in Ladakh and the Hill Councils’ power to make recruitments at the district level has also been affected by the Lieutenant Governor (LG)’s presence.
- The LG’s office has followed a corporate model of working a majority of the officers are of the Hill Councils and the rest have been recruited through outsourcing agencies.
- The fact that the LG’s office has not been able to strike a chord with the people of Ladakh is best manifested by the emergence of two major groups in Ladakh: The Apex Body Leh and the Kargil Democratic Alliance.

3. GOVERNANCE

The work done by municipal corporations to combat the pandemic was at the cost of fiscal stress. Explain the strategies to overcome fiscal stress.

KEY POINTS

- Municipal corporations that saw high numbers of Covid-19-affected were at the forefront of the fight against the pandemic, particularly during the lockdown.
- Municipal corporations were already facing decline in own-source income. (as noted by the Economic Survey 2018).

Strategies

- a fiscal stimulus needs to be announced as per intensity of stress, calibrated for the size of the city, to bridge the gap between declining revenue and increasing expenditure, giving priority to committed expenditure and Covid-related backlog.
- stimulus packages should also be made available to other Urban Local Bodies (ULBs) whose financial position is worse compared to corporations. They also have an equally important role in the event of third wave or other similar occasions.
- It includes GIS mapping of properties, cross checking, payments by government properties (including state governments), rationalisation of concessions, imposition of penalties (attachment of bank accounts of big defaulters) and revision of the unit area rate.
- bring in efficiency in expenditure using out-sourcing, PPP including hybrid annuity model (HAM), participatory budgeting by expanding the size of local elasticity from the citizens.
- Develop synergy within government missions and programmes, and use XV Finance Commission funds for common service centres (Rs 450 crore), health infrastructure (over Rs 25,000 crore), with a regional approach (44 urban agglomerations) for water and sanitation.

It is important to improve economic democracy at the local government level to deliver local public service delivery effectively. Discuss

KEY POINTS

- Decentralisation has long been recognised as an efficient instrument for promoting economic democracy, and delivering services to meet the needs of people.
- Fertiliser subsidies, for example, benefit richer regions much more than poorer regions. There is a great deal of room for creating a level-playing field between leading and lagging regions through fiscal decentralisation.
- As with fiscal decentralisation, the extent of administrative decentralisation varies across different services. There is considerable variation in whether execution and supervision are both decentralised.
- For instance, India has devolved the execution of most education programmes to the sub-national level, but supervision in many cases is retained at the national level.
- Fiscal transfers would benefit from more explicit rules, greater transparency, and ensuring that interstate transfers do not act as a disincentive for fiscal responsibility by sub-national governments.
- More fiscal resources are needed to support rural structural transformation. Under the present arrangement, panchayats make no contribution to the design of the schemes and are given little discretion in implementation.
- They also have limited autonomy over their staff. The expenditure assignments need to be spelled out in detail so that this results in local governments having autonomy and sufficient resources to provide meaningful services to their communities.

4. GOVERNMENT POLICIES

Udyam initiative represents a significant step towards creating a level-playing field for MSMEs through digital inclusion. Explain

KEY POINTS

- Udyam allows MSMEs to auto-register in the Government e-Marketplace (GeM), which facilitates online procurement of common-use goods and services by various government departments, organisations and PSUs.
- Registration provides MSMEs with an equal opportunity to access and sell to the B2G market segment.
- MSMEs registered with Udyam can also participate as sellers on one of the three Trade Receivables Discounting System (TReDS)—Receivables Exchange of India (RXIL), M1Xchange and Invoicemart.
- Despite some compensatory provisions under the MSMED Act, 2006, the issue of delayed payments remains a critical challenge for MSMEs.
- Udyam-registered MSMEs can take advantage of the Samaadhan portal, a delayed payment redressal platform, to resolve their outstanding issues in a more streamlined and time-bound manner.
- Udyam registration also simplifies availing of financial assistance from central and state government financial institutions.
- The Udyamportal, with its interlinking to GST and TReDS platforms, can provide the relevant data to carry due diligence exercises by the financial institutions.
- Udyam registration can be tied to availing of special tax incentives for early-bird registrations, or used as an eligibility criterion for interest subvention schemes.
- The government must become more sensitive to the apprehensions of the MSMEs and act, even while it laudably intends to mainstream the enterprises within the formal systems.

Revamping the National Family benefit scheme is necessary to provide a better social security system in the country. Analyse

KEY POINTS

- The National Family Benefit Scheme (NFBS), launched in 1995 under the National Social Assistance Programme (NSAP), is meant to help the survivors in these circumstances.
- The central contribution to old-age pensions, for instance, has stagnated at a measly Rs 200 per month for nearly 15 years.
- Despite repeated pleas for an increase, including an open letter from 66 eminent economists in 2018, the central government refused to budge.
- Contributory schemes, however, are not very attractive for poor people and especially for the poorest.
- Schemes like APY requires them to be able to save, understand the formalities, and trust the government with their money. All this is quite difficult for people with low earnings and little education.

- A big increase in the amount of emergency assistance (initially Rs 10,000, raised to Rs 20,000 in 2012) is long overdue
- There is a strong case for removing the restriction to BPL households. As is well-known, BPL lists are outdated, unreliable, and full of exclusion errors in most states.
- NFBS formalities are crying for simplification, transparency, and people-friendliness. The main responsibility for identifying eligible families rests with the gram panchayat or municipality.
- The absence of any form of life insurance appropriate for poor households is a gaping hole in India's budding social security system.

As the world's largest provider of early childhood services, there is a need to revamp anganwadis across India. Elaborate

KEY POINTS

- As part of the Integrated Child Development Services (ICDS), anganwadis play a crucial role in supporting households, particularly from low-income families, by providing childcare, health and nutrition.
- The largest in the world, ICDS covers about 88 million children aged 0-6 years in India. Their closure significantly impacted service delivery and weakened an important social safety net.
- According to National Family Health Service (NFHS)-5 data, in 2019-20, less than 15% of five-year-olds attended any pre-primary school at all.
- Early childhood, the period from birth to five years of age, is a crucial developmental window.
- As platforms for early childhood education and nutrition support, anganwadis can play an important role for children to achieve their potential.
- The National Education Policy, 2020, places anganwadis at the centre of the push to universalise access to early childhood care and education (ECCE).
- Anganwadi workers often do not have the support or training to provide ECCE. Administrative responsibilities take up significant time, and core services like pre-school education are deprioritised.
- These issues worsen in an urban context, with the utilisation of early childcare services at anganwadis at only 28%, compared to 42% for rural areas, according to NFHS-4 data.

Swachh Bharat Mission (SBM) 2.0 guidelines continue to take forward the aims of the SBM launched in 2014 along with solid waste management. Explain

KEY POINTS

- The recently released Swachh Bharat Mission (SBM) 2.0 guidelines continue to take forward the aims of the SBM launched in 2014, but add an important dimension focused on solid waste management.
- Its components include source segregation; door-to-door collection of waste; separate transportation of different types of wastes; processing of wet waste, dry waste, and construction and demolition waste.

- Bioremediation of old waste is the process of dismantling old waste heaps, sieving the material to recover bio earth (enriched soil) and refuse-derived fuel which can be used as heating material in cement kilns.
- As per the SBM 2.0 guidelines, the total quantity of waste generated by urban areas in India is about 1.32 lakh tonnes daily.
- This adds up to 4.8 crore tonnes per annum. Of this only about 25% is being processed; the rest is disposed of in landfills every year.
- The funding was provided to buy efficient vehicles for door-to-door collection and transportation of waste, provide bins for segregation of waste at source, and set up waste processing facilities.
- Also, the transformation of waste disposal sites to processing sites is likely to produce 72 lakh tonnes of organic compost per annum from 4.8 crore tonnes of waste generated across all ULBs in the country.

Though India's plant variety protection law is progressive and pro-innovation variance in State laws must be addressed. Discuss

KEY POINTS

- India is the world's fifth largest market for seeds, plant varieties and vegetatively propagated varieties (potato is one such since the tuber itself is the "seed").
- The market size is estimated at \$3 billion a year, although the volume is significant, since India is largely a low-value seeds market.
- The seed sector is also a large one, with more than 540 registered seed companies operating in India, according to the Department of Agriculture, Cooperation and Farmers Welfare.
- The private sector now accounts for 65 per cent of seed production in India and is an essential part of the agri-innovation chain in India.
- The lack of protection for intellectual property, and a complicated and slow process for registration of new varieties has also not helped.
- The PPVFR Authority's demand for parental lines (to do its own testing) has also deterred many foreign players from introducing the latest varieties.
- We also need to ensure that the farmer has a stake in innovation by ensuring better realisations for adopting innovative varieties.
- For this, we need much more investment in farm infrastructure, including processing and pre-processing plants, as well as "identity protected" supply chains.
- India's plant variety protection law is not broken. Nor is it anti-innovation, as a superficial reading of the Pepsi potato case may suggest.

The government must frame legislation that protects gig economy workers without allowing them to disrupt businesses. Elaborate

KEY POINTS

- The Supreme Court has sought a response from the Centre to a PIL filed by Indian Federation of App Based Transport Workers (IFAT).
- IFAT's list of demands includes social security benefits, health insurance, pension, cash transfers of Rs 1,175 per day for app-based drivers and Rs 675 per day for others till December 31 or till the pandemic subsides.
- Most importantly, it wants that gig workers be recognised as unorganised workers as per Unorganised Workers' Social Welfare Security Act 2008.
- Platform employers will point out the strength of their model lies in its ability to use the services of large numbers of workers and pay them for a specific task.
- Given the workers belong to the more vulnerable sections of society, they need a stable income and much more than subsistence wages.
- Employers may think that flexibility in the workplace is an advantage but the truth is that in a country like India workers prefer to be employed with one company in return for assured benefits.
- However, the problem needs to be addressed at an industry-wide level. The government must usher in legislation that protects gig economy workers without allowing them to disrupt businesses.
- The law can specify certain minimum pay and benefits for workers but unionism cannot be encouraged.

Discuss the various implications in linking Election Commissions' electoral roll data with aadhar ecosystem.

KEY POINTS

- An unwillingness to allow meaningful debate and invite wider consultation can undo even the progressive aspects of problematic legislation.
- Union government has managed to push through a Bill in Parliament to link electoral roll data with the Aadhaar ecosystem.
- Bill's objective to purify the rolls and weed out bogus voters may appear laudable, and the seeding of Aadhaar data with voter identity particulars may seem to be a good way of achieving it.
- Indeed, this can also allow for remote voting, a measure that could help migrant voters. The four qualifying dates for revision of rolls will help in faster enrolment of those who turn 18.
- The Opposition underscored the possible disenfranchisement of legitimate voters unwilling or unable to submit Aadhaar details, the possible violation of privacy, and the possibility that demographic details may be misused for profiling of voters.
- Even though the Aadhaar requirement is said to be voluntary, in practice it can be made mandatory. The Bill says the election registration officer may require the submission of the Aadhaar number both for new enrolments and those already enrolled.

- If the Government really has no ulterior motive in the form of triggering mass deletions from the electoral rolls, it must invite public opinion.

For better quality of life, schemes designed for the tribal people need to be implemented in letter and spirit across the country. Explain

KEY POINTS

- The Forest Rights Act (FRA) has been in existence for 15 years. As on April 30, 2020, the Ministry of Tribal Affairs had received 42,50,602 claims (individual and community), of which titles were distributed to 46% of the applicants.
- In the first stage, it requires the constitution of a Forest Rights Committee comprising members from within the village by conducting a Gram Sabha with two-thirds of the members present at the meeting.
- In Chhattisgarh, in many villages, earnings from activities such as collection of tendu leaves for rolling local cigars were affected when there was an influx of labourers from Bihar who were willing to work for low wages.
- NGO representatives working in the tribal areas believe that the livelihoods of the locals would improve if horticulture practices are promoted in addition to bamboo and aloe vera plantations with an assured market.
- The FRA was never going to be a panacea to address all the issues of the tribal people, but it is important. To improve the condition of the tribal people, especially those living in remote areas, there needs to be a push on every possible aspect of their socioeconomic life.

The Semiconductor Mission can give fillip to the sustainable development of the chip and display industry. Explain

KEY POINTS

- The Union Cabinet's decision this week to set aside Rs.76,000 crore for supporting the development of a 'semiconductors and display manufacturing ecosystem.
- The basic building blocks that serve as the heart and brain of all modern electronics and information and communications technology products.
- For one, the level of fiscal support currently envisioned is minuscule when one considers the scale of investments typically required to set up manufacturing capacities in the various sub sectors of the semiconductor industry.
- E-waste in the country has to be managed by implementing e-waste rules 2016 effectively.
- A semiconductor fabrication facility, or fab, can cost multiples of a billion dollars to set up even on a relatively small scale and lagging by a generation or two behind the latest in technology.
- Even granting that India's Production Linked Incentive scheme intends to give only 50% of the cost of setting up at least two greenfield semiconductor fabs by way of fiscal support, not much of the current scheme outlay of approximately \$10 billion is likely to be left to support other elements including display fabs, packaging and testing facilities, and chip design centres.

- Chip fabs are also very thirsty units requiring millions of litres of clean water and extremely stable power supply.

5. HEALTH

The Fifteenth Finance Commission health grant has the potential to create a robust health ecosystem in Panchayati Raj Institutions. Explain

KEY POINTS

- A potentially game-changing and transformative development went by, almost unnoticed the release of Rs 8,453.92 crore to 19 States, as a health grant to rural and urban local bodies (ULBs), by the Department of Expenditure, the Ministry of Finance.
- This grant is equal to 18.5% of the budget allocation of the Union Department of Health and Family Welfare for FY 2021-22 and around 55% of the second COVID-19 emergency response package announced in 2021.
- The government funding for urban primary health services was not channelled through the State Health Department and the ULBs (which fall under different departments/systems in various States) did not make a commensurate increase in allocation for health.
- The reasons included a resource crunch or a lack of clarity on responsibilities related to health services or completely different spending priorities.
- Most often, it was a varied combination of these factors. The well-intentioned legislative step inadvertently enfeebled the health services more in the urban areas than the rural settings.
- Regular outbreaks of dengue and chikungunya and the struggle people have had to undergo to seek COVID-19 consultation and testing services in two waves of the novel coronavirus pandemic are some examples.
- Awareness of citizens about the responsibilities of local bodies in health-care services should be raised. Such an approach can work as an empowering tool to enable accountability in the system.
- The Fifteenth Finance Commission health grants should not be treated as a 'replacement' for health spending by the local bodies, which should alongside increase their own health spending regularly to make a meaningful impact.
- local bodies remain 'health greenfield' areas. The young administrators in charge of such RLBs and ULBs and the motivated councillors and Panchayati raj institution members need to grab this opportunity to develop innovative health models.
- However, when it comes to local bodies, this has to be a blend of incremental financial allocations supplemented by elected representatives showing health leadership, multiple agencies coordinating with each other, increased citizen engagement in health.

National Family health survey data reveals that poorer states doing better on development indicators. Do you agree with this view? Comment

KEY POINTS

- In a detailed examination of the summary statistics reported in the NFHS data (large and small states of India for the two years 2015-16 and 2019-21), we find quite the opposite result.
- A remarkable convergence in living standards, a convergence possibly unparalleled in Indian history and in the space of just five years.
- NFHS reports the averages for all states, and for 131 variables, for two years 2015-16 and 2020-21.
- Seventeen of these 131 welfare indicators are used by us to construct indices under four classifications.
- Seventeen indicators imply a maximum possible score of 1,700. Kerala performs the best with an aggregate index of 1,300 in NFHS-5 a very small 1.5 per cent increase from its 2015-16 value.
- In contrast, Bihar increases its index by 56 per cent. Punjab does better than Tamil Nadu and today has a higher index 1,240 versus 1,178 in 2020-21.
- The approach was not just limited to sanitation, proper fuel or electricity interventions that are targeted to an individual household but also to the holistic development of an entire region.
- This was the central theme behind the identification of the most backward districts of the country and targeting public resources to help them catch up with the India growth story.

In the context of omicron threat, real-time and reliable morbidity surveillance is essential for better preparedness. Elaborate

KEY POINTS

- South Africa has established an efficient rapid mortality surveillance system which would alert us with the earliest evidence of such impact, if any.
- Mortality data are essential for pandemic management from both clinical and public health perspectives to guide patient care, protection of vulnerable population groups, and resource mobilisation and allocation.
- For South Africa, the National Population Register serves as a useful data source, with weekly updates of deaths by sex, age, date of death, and place of registration.
- For India, excess mortality estimates are based on epidemiological models, some of which include analyses of month-wise death registration data released by several States.
- The Civil Registration System (CRS) Report for 2019 indicates high levels of registration completeness across India.
- Information on deaths recorded in the national Sample Registration System and other household surveys could be used to estimate completeness of CRS data using record linkage methods.
- Analysis of recent CRS data has exposed the brittle nature of the outputs from these models. Moreover, the identified gaps in CRS data by location, sex and age from detailed analyses can help guide interventions to improve data quality for the future.

Systemic investments in school mental health allow for a creation of an environment focused on well-being and social capital. Explain

KEY POINTS

- It is now clear that COVID-19 caught us all by surprise. The school education sector in India too struggled during the novel coronavirus pandemic.
- While online learning for children has had its fair share of challenges, including learning loss, fatigue from online learning to mental stress.
- There is another group that faced severe adversity a group that has not been adequately considered in the general discourse our teachers.
- They too struggled with meaningful pedagogies embedded in digital platforms.
- Focusing on mental health of children will allow them to concentrate more on studies and give physical well being.
- Children can grasp the subject easily with a lot attention towards school classes. They can be able to do basic maths without struggle.
- This correspondingly builds social capital and can establish a healthy relationship with teachers and parents.
- This can act foundation for human capital of the children and can give enormous output to economy in long-term.
- The drop-out rates across country can easily reduced with quality social capital and well being of children.
- This needs to be incorporated with increasing spending towards educational sector as suggested by economic survey 2020-21, the share of GDP towards education needs to be increased.
- This is in line with National Education policy 2020 which try to establish 100% gross enrollment ration by 2030.

Pushing the health sector to adopt green initiatives and practices help India in meeting the Sustainable Development Goal for climate action. Discuss

KEY POINTS

- According to the World Travel and Tourism Council's Economic Impact Report, before the pandemic, the travel and tourism industry, directly and indirectly, accounted for 10.6 per cent of all jobs and 10.4 per cent of global GDP.
- The Covid-induced lockdown has wreaked havoc on India's hotel industry. Every year, this sector in India brings in billions of dollars.
- Despite being one of the fastest-growing businesses, this industry is more susceptible to external and internal crises.
- Although the pandemic has brought the hospitality industry to an all-time low, the industry's ongoing efforts to introduce innovative techno-managerial interventions and new safety protocols bring some hope for recovery.

- Schemes such as free visitor visas for five lakh travellers, loan guarantee for Covid-affected sectors, LTC cash vouchers, besides incentives to travel and tourism stakeholders and registered tourist guides, have been rolled out.
- Experts advocate continuation of subsidies and loan moratorium for a few more months, besides robust financial assistance on liberal terms to meet operating expenditures.
- Destination Capital, a strategic advisory firm, has inked an agreement with the World Tourism Organization of the United Nations (UNWTO) to help revitalise the sector.
- Pushing the sector to adopt more green initiatives and practices would also assist India in meeting the Sustainable Development Goal for climate action.

6. INTERNATIONAL RELATIONS

European Union's Global Gateway can establish long-term benefits for people around the world.

Analyse

KEY POINTS

- European Union (EU) and India adopted the Connectivity Partnership, expanding our cooperation across the digital, energy, transport, and people-to-people sectors.
- With India, we already have a strong ongoing collaboration on sustainable infrastructure. For instance, the European Investment Bank (EIB) has financed over €4.31 billion in the country since 1993.
- EU and Brazil inaugurated a new fibre-optic cable to carry terabytes of data faster and more securely between our two continents.
- The cable starts in the EU, where the EU's General Data Protection Regulation (GDPR) became the gold standard of data protection, and ends in Brazil, which recently introduced a similar law.
- EIB and the cooperation agencies of France, Spain and Germany joined the European Commission in Togo to identify projects to finance in the energy, transport and digital sectors.
- The Global Gateway will mobilise investments of more than €300 billion in public and private funds for global infrastructure development between 2021 and 2027, financing the climate and digital transition, as well as
- At heart, the Global Gateway is about demonstrating how democratic values offer certainty and fairness for investors, sustainability for partners and long-term benefits for people around the world. The EU and India can be leaders in this endeavour.

Though India's economy may be larger, it has can learn from Bangladesh to improve its baseline of human development. Elaborate

KEY POINTS

- Bangladesh has made rapid strides in economic development, for its part, has ambitiously raised its sights to be among the largest 25 economies in the world by 2030, and a developed and prosperous nation by 2041.

- The narrative of this nation's turnaround in economic fortunes is best reflected in its position vis-a-vis Pakistan.
- For the first time in 2019, its nominal GDP exceeded that of Pakistan by 9%, at \$302.6 billion.
- Bangladesh's resilience is largely due to its model of development. It is a frontrunner in improving the socio-economic conditions of its population, especially women.
- A much higher proportion of workers such as school teachers, family planning workers, health carers, immunisation workers and even garment factory workers are women.
- Huge gains on the health front are reflected in lower rates of infant, child and maternal mortality. Primary school enrollment ratios, too, are higher. Life expectancy at birth was higher in India in 1990, but that rapidly reversed in the succeeding decades.
- Bangladeshis currently have a life expectancy three years longer than a typical Indian or five years than a Pakistani. India's economy may be 8-times larger but it has much to learn from Bangladesh to improve its baseline of human development.

Reconciliation between Russia and the West will make help India manage its own security challenges at global level. Explain

KEY POINTS

- The rise of China and the consequent geopolitical churn in Asia, have raised India's stakes in US-Russia relations.
- Moscow also roped in Beijing to build a new coalition the RIC to promote a multipolar world that would limit the dangers of American hyperpower.
- India's fears of the unipolar moment turned out to be overblown and Delhi's ties with Washington began to see rapid improvement since 2000.
- Russia presented several proposals for a new European security architecture.
- The US, which is now focused on the China challenge, appears interested in easing the conflict with Russia. Despite its extraordinary military resources, Washington can't afford to fight in both Asia (with China) and Europe (with Russia).
- While coping with the complex dynamic of Russia's relations with the West has been an enduring element of independent India's foreign policy.
- Delhi can't influence the new effort to build a mutually acceptable security order in Europe, but it can welcome and support it.
- Delhi knows that stabilising the Asian balance of power will be difficult without a measure of US-Russian cooperation in Europe.
- If Moscow at odds with the West in the last two decades deepens its current close alignment with Beijing, it will be a lot harder to prevent Chinese dominance over Asia.

In various ways, India's digital diplomacy can influence the emerging economies across the world. Analyse

KEY POINTS

- India is pioneering the concept of digital public goods that enhance the ease, transparency and speed with which individuals, markets and governments interact with each other.
- Built on the foundation of Aadhaar and India Stack, modular applications, big and small, are transforming the way we make payments, withdraw our PF, get our passport and driving licence and check land records, to name just a few activities.
- The cost of setting up an open source-based high school online educational infrastructure, to supplement the physical infrastructure, for an entire country is less than laying two kilometres of high-quality road.
- The use of Diksha, the school education platform built on the open-source platform Sunbird, has followed the same trajectory – today close to 500 million schoolchildren are using it.
- Digital public goods spread speed, transparency, ease and productivity across the individual-government-market ecosystem and enhance inclusivity, equity and development at scale.
- India's digital diplomacy will be beneficial to and welcomed by, all emerging economies from Peru to Polynesia, from Uruguay to Uganda, and from Kenya to Kazakhstan.
- And it will create a strong foothold for India globally to counter the extravagantly expensive, brick-and-mortar led Belt and Road Initiative of China.

G.S PAPER III

7. ECONOMY

Addressing the supply chain bottle necks is necessary to protect the key manufacturing sectors in India. Analyse

KEY POINTS

- For most economies in Asia, the robust growth in goods exports has more than compensated for the loss of services exports.
- For India, the bottlenecks have mostly been reflected in higher commodity prices, and to an extent greater freight costs.
- However, the shortages of certain products, especially semiconductors have increasingly been impacting production, especially for automobiles.
- Indeed, auto production in the last six months has been 16 per cent below 2019 levels for passenger vehicles, and 24 per cent for two wheelers.
- This issue appears to be especially debilitating for India's nascent electronic vehicles industry. In line with weak production, sales have declined, and the backlog of orders has built up dramatically.

- So far, India's imports have been rising rapidly, and understandably, the focus is first on securing energy supplies.
- The government is looking to add more incentives, but a typical large semiconductor manufacturing facility needs almost two years to build.
- However, given the starting point for India remains one of import dependencies in varying degrees on capital and consumer imports.
- We need to be watchful and pragmatic in understanding and addressing the supply chain bottlenecks, to shield our nascent recovery.

The Shanghai Data Exchange is viewed as an important move in accelerating the trading and monetization of data, unleashing digital dividends. Discuss

KEY POINTS

- The massive increase in digital dependence induced by the pandemic might have forced us to re-estimate the immediate future.
- The European Union has come up with its General Data Protection Regulation in 2018 and, in India, a Parliamentary panel was looking at the Data Protection Bill.
- A 2011 World Economic Forum report titled 'Personal Data: The Emergence of a New Asset Class' described "data" as a new asset class and argued that a massively increased amount of personal data
- the idea of setting up data exchanges has been nurtured in China for some time now. In 2013, Chinese businessman Wang Sanshou, nicknamed the 'Data King', pioneered a new path for data asset operation.
- China's initial small-scale experiments of data trading, however, failed to reach critical mass.
- The Guiyang Data Exchange, established in 2015, never saw significant trading volume. Over the past six years, about 30 big data trading platforms have been established by various local government authorities and private enterprises in China, for trading whole datasets, Web crawlers.
- The Shanghai Exchange allows companies that collect data to maximise the values of their businesses while permitting purchasers to use the data to raise the productivity of their businesses.

Why Security Exchange Board of India is planning to regulate Algorithmic Trading in the country? Discuss

KEY POINTS

- Algorithmic trading or Algo trading is computer assisted buying and selling of stocks.
- It is also known as automated or programmed trading since pre-programmed computer strategies execute buy and sell trades depending on set parameters, instructions or market pattern and conditions.
- The key purpose of algo trading is speed of order execution. It takes several seconds when humans punch buy and sell traders.

- Around 50 per cent of daily trading volume in Indian stock markets is through an advanced form of algo trading where computer programmes are executing trade orders based on pre-defined strategies.
- SEBI and stock exchanges regulate and monitor broker terminals but the algo programmes deployed by traders did not require any exchange approvals so far as there were no rules.
- But SEBI now believes that unregulated/unapproved algos pose a risk to the market and can be misused for systematic market manipulation as well to lure the retail investors by guaranteeing them higher returns.
- Algo programmers are selling their strategies like assured return products. Algo trading became controversial in 2015 when it was revealed that NSE gave preferential access to a few algo traders.
- SEBI wants every algo trading strategy and programmes to be approved by the exchanges before they are deployed by traders.

India's service revolution has shown that industrialization is not the only route to rapid economic development. Do you agree with this view? Comment

KEY POINTS

- During the last two decades, services have contributed more than manufacturing to India's output growth, productivity growth, job growth, and poverty reduction.
- A majority of FDI inflows into India are concentrated in the service sector. India has outperformed China on productivity growth rate in services.
- Although global trade in goods has never fully recovered since the global financial crisis in 2007, this is not the case with trade in services, which has exploded.
- While both traditional and modern service exports from India have exploded, what is even more striking is that the share of modern service exports has increased at a much faster pace in India compared to the US.
- The future of the service revolution will be in the tier two and tier three cities. Limitations to growth are mostly on the supply side, due to limited availability of employees.
- The private sector in modern services will need to play a bigger role to promote public-private partnership models to scale up investments in education.
- India can create a dynamic virtuous circle of higher education leading to the growth of service exports, leading back to faster growth, and more investments in higher education.

RBI's decision of extending Prompt Corrective Action (PCA) to non-banking financial companies (NBFCs) can strengthen financial system of the country. Discuss

KEY POINTS

- In a strategic move, the RBI has extended the framework of Prompt Corrective Action (PCA) to non-banking financial companies (NBFCs), bringing their regulations closer to banks
- The RBI has been simultaneously working on harnessing the potential of NBFCs by allowing them more operational freedom to step up growth, but at the same time calibrating their regulatory rigour.

- The need to appoint a chief risk officer (CRO) was also mandated to better regulate the institutionalised processes of risk governance.
- The format and parameters of PCA for NBFCs is close to the one prescribed for banks though the target parameters could be different.
- If they enter higher risk thresholds, they may face more stringent restrictions like embargo on opening branches and altering the structure of the board composition to make regulations work their way to improve.
- These conditions could be limiting the autonomy of the NBFCs but, at the same time, they could work as a systemic control to make them work upon specific strategies to come out of PCA as quickly as possible.
- The transparency of the PCA framework should be a potent tool for the boards of NBFCs to proactively keep tab on the key parameters.

e-shram is right step in giving protecting informal workers which needs to be strengthened by restructuring social security and social protection programmes. Elaborate

KEY POINTS

- The complete panel results from CMIE show that the employment-population ratio for the period May-August 21 was 36.8 per cent compared to 39.6 per cent in the same period two years ago and the unemployment rate for both rural and urban areas is still considerably higher.
- The e-Shram portal which has come into existence now is meant to fulfil this mandatory requirement, although registration had been recommended by the National Commission for Enterprises in the Unorganised Sector (NCEUS).
- The e-Shram portal merely lists 13 existing social security and social protection schemes and six other employment generation schemes for which sections of workers could be eligible.
- The expansion of social security/protection has been languishing in India mainly because of a lack of commitment towards higher funding.
- However, except in the crisis year 2020-21, expenditure by the central government on all major social security/protection programmes has shown a declining trend — from about 1.64 per cent of GDP in 2015-16 to 1.25 per cent of GDP in 2019-20.
- These include restructuring social security and social protection programmes on a statutory basis and simplifying them to promote universalisation.

Do you think that banning futures trade is a rational solution to arrest inflation in the country?
Comment

KEY POINTS

- The Securities Exchange Board of India has banned futures and options trading in a host of agriculture commodities including chana, mustardseed, soya bean and its derivatives, crude palm oil, moong, paddy (Basmati) and wheat for a period of one year.

- Commodity futures are market instruments to achieve price discovery, market price stabilisation and price risk management.
- Futures trading provides assurance to farmers about price discovery. Any farmer faces the risk of fall in prices when it is harvest season for a particular commodity.
- In the absence of a futures market, farmers will be forced to sell their produce in the cash market at the prevailing price, which may not be to their advantage.
- But they take advantage of price signals from the derivative market and this enables them to decide about the cropping patterns based on price signals.
- Increase in the prices of agricultural products can be mostly attributed to failure of crops, or to the reduced area of cultivation for that particular commodity, exporting a sizeable quantity the same or even hoarding.
- The main finding of the study was that there has not been any significant change in the spot price volatility after the introduction of futures trading for both wheat and maize.

Do you think that there is a need to institutionalise the valuation profession in the country?

Comment

KEY POINTS

- The market usually discovers the price of an asset, reflecting its worth. However, it is often neither feasible nor desirable to conduct a market test for every asset.
- An economy requires valuations of assets to facilitate a variety of transactions. A corporate insolvency proceeding envisages estimation of 'fair value' and 'liquidation value' of the assets.
- Given its growing importance, the valuation profession has emerged as a key institution.
- The institutional arrangement for any profession is a statutory body with twin responsibility of development and regulation of the profession.
- The Insolvency and Bankruptcy Code entitles certain stakeholders in term of liquidation value.
- It envisages certain decisions with reference to fair value and liquidation value. With the operationalisation of the Code in late 2016, the need for an institutional arrangement became acute.
- Currently, there are 16 RVOs with 4,500 RVs registered under the Rules across three asset classes. The remit of the Rules is limited to valuations required under the Code and the company law.
- A Committee of Experts recently recommended an exclusive statute to provide for the establishment of the National Institute of Valuers to protect the interests of users of valuation services and to promote the development of, and to regulate the profession of valuers and market for valuation services.

8. AGRICULTURE

A socio-economic enterprise based on the lines of Anand milk union limited (AMUL) has immense potential to aid India's crop-growing farmers. Discuss

KEY POINTS

- The Government's new policies intended to double incomes of small farmers, which have been languishing while stock markets are soaring.
- Amul has become one of India's most loved brands, and is respected internationally too for the quality of its products and the efficiency of its management.
- It has successfully competed with the world's largest corporations and their well-established brands.
- Kurien's accounts of the political battles he fought for 'Make in India', and of the 'can-do' spirit and innovation of Indian engineers, are inspiring.
- Inclusion and equity in governance must be hardwired into the design of the enterprise.
- The 'social' side of the enterprise is as important as its 'business' side. Therefore, new metrics of performance must be used, and many 'non-corporate' methods of management learned and applied to strengthen its social fabric.
- Solutions must be 'local systems' solutions, rather than 'global (or national) scale' solutions.
- The resources in the local environment (including local workers) must be the principal resources of the enterprise.
- science must be practical and useable by the people on the ground rather than a science developed by experts to convince other experts.
- Sustainable transformations are brought about by a steady process of evolution, not by drastic revolution.

Examine the rationale behind the declaration of 2023 as the International Year of Millets by United Nations General Assembly.

KEY POINTS

- To address multi-pronged health issues such as obesity and under-nutrition, the United Nations General Assembly passed a resolution sponsored by India and supported by more than 70 countries, declaring 2023 as the International Year of Millets .
- These are essential climate resilient staple food crops grown in dryland agriculture that has occupied 68 per cent of the area under cultivation and produced 44 per cent of food requirements.
- Sorghum, pearl millets, and a range of small millets can thrive in varying agro-climatic regions.
- Cultivating millets requires less water than rice, sugarcane and wheat, and will be suitable for small farmers.
- Given the declining or even stagnant trend of millets area under cultivation, the government included the cereals in the (Targeted) Public Distribution System under the sub-mission 'Nutri-cereals' in 2018.

- Classifying agro-climatic zones for millets cultivation and following an awareness-interest-evaluation-trial approach to promote millets adoption and rendering support activities to value creation can be integral part of the action plan.
- Agricultural Technology Application Research Institutes and Krishi Vigyan Kendras can invest in capacity building of smallholder farmers through field demonstration.
- The Agricultural and Processed Food Products Export Development Authority (APEDA) can incentivise commercial cultivation of millets such as 'one district one product' or cluster farming for trade promotion.

Do you think that crop diversification is compulsory for doubling the income of farmers in India?

Comment

KEY POINTS

- With new data on farmer incomes, we estimate again the per hectare incomes, and this time, Punjab appears to be earning even lower than the all-India average.
- Situation Assessment Survey 2019 gives an estimate of (i) incomes earned by AHHs from cultivation, and (ii) the average size of their operational landholdings. Logically, to estimate per hectare incomes, we should take the two data from this report.
- Combining AC 2015-16 data on average landholding sizes with farmer income data from SAS 2019, we calculated per hectare incomes (see graphic).
- In terms of value, maize production generated Rs 65,988/ha in Punjab and Rs 66,616/ha in Bihar.
- Continuing with rice-wheat may yield assured returns, but farming in Punjab is costly, and with depleting water table and deteriorating soil quality, costs are only going to escalate.
- But given the nature of farming and the precarious situation of the average farmer, the path to diversification will not be easy and needs a structured, coordinated and a dynamic policy design.
- The future of agricultural reforms will pivot on state-Centre cooperation. The farmer has to be at the centre, and unless his confidence and trust is regained, no policy will deliver.

Examine the various implications of legalizing the minimum support prices for various agricultural commodities.

KEY POINTS

- The Centre has been announcing MSP for crops every year for two seasons kharif and rabi since 1965, based on the recommendation of the Commission for Agricultural Costs and Prices (CACP).
- MS Swaminathan-headed Farmers' Commission (2006) recommended that MSPs for crops should be fixed at 50 per cent higher than the cost of production.
- The procurement is not linked with crop production of different States. In 2018-19, Punjab's share in paddy production was only 11 per cent, but its share in procurement was 25.53 per cent.
- This is also reinforced by the data of the Situation Assessment Survey (SAS) of farmers in 2018-19 that underlined only about 17 per cent of farmer households sold paddy to procurement agencies.

- SAS data of 2018-19 suggests that the awareness about the MSP-based procurement is poor. This might be higher among marginal and small farmers, who constitute 86 per cent of all farmers.
- The Shantha Kumar Committee (2015) report not only questioned the undue importance given to the procurement of paddy and wheat but suggested widening the procurement scheme.
- While every effort is needed to fix the MSP based on the true cost of production, there is also a need to reduce the cost of cultivation which has skyrocketed particularly after the introduction of MGNREGS.

9. ENERGY

Do you think that the generation of nuclear energy is good enough to handle the existing climate change crisis? Critically analyse

KEY POINTS

- The latest figures on global carbon dioxide emissions call into question the world's efforts to tackle the climate crisis.
- CO₂ emissions are set to soar 4.9% in 2021, compared with the previous year, according to a study published earlier this month by the Global Carbon Project (GCP).
- Nuclear energy is also responsible for greenhouse gas emissions. In fact, no energy source is completely free of emissions, but more on that later.
- New power plants, for example, generate more CO₂ during construction than those built in previous decades, due to stricter safety regulations.
- If the entire life cycle of a nuclear plant is included in the calculation, nuclear energy certainly comes out ahead of fossil fuels like coal or natural gas.
- Due to the high costs associated with nuclear energy, it also blocks important financial resources that could instead be used to develop renewable energy.
- During the world's increasingly hot summers, several nuclear power plants have already had to be temporarily shut down or taken off the grid.
- In the last 20 years, 95 nuclear power plants have gone online and 98 have been shut down. If we take China out of the equation, the number of nuclear power plants has shrunk by 50 reactors in the last two decades.

Though sustaining LPG adoption in rural India is a challenge, goal must be a more sustainable energy basket per family. Discuss

KEY POINTS

- The Pradhan Mantri Ujjwala Yojana (PMUY) is 'a flagship scheme of 2016, with an objective to make clean cooking fuel such as LPG available to the rural and deprived households which were otherwise using traditional cooking fuels such as firewood, coal, cow-dung cakes'.
- According to the recently released National Family Health Survey (NFHS)-5, there was a higher prevalence of TB in households that were using solid fuels when compared to those using clean cooking fuels in most States.

- Over the five years, the average per capita consumption among Ujjwala customers has hovered around three cylinders per year (of 14.2 kg), rising to 4.2 (2020-21) when the full impact of free refills under the Pradhan Mantri Garib Kalyan Yojana was seen.
- The novel coronavirus pandemic has resulted in LPG prices having gone up and governmental support focusing on other challenges.
- This development could derail the gains made by Ujjwala customers in terms of LPG adoption. It is time to get creative about how to sustain LPG adoption in these challenging times.
- Improvements in regular and on-demand supplies of LPG, options for refill financing, alternative remunerative uses for cow dung and bio mass possibly on the pattern of procurement of cow dung as is being done in Chhattisgarh.

India needs renewable energy from various sources in order to meet the Conference of parties 26 commitments. Elaborate

KEY POINTS

- There was a clear acceptance of the need for more financial assistance to help poorer nations graduate from fossil fuels. India, the world's fourth-biggest emitter of carbon dioxide after China, the US and the EU, made its own set of commitments.
- It pledged to bring its economy's carbon intensity down to 45% by 2030 and fulfill 50% of its energy requirement through renewable energy by 2030.
- It would achieve Net Zero status by 2070. It would increase its non-fossil energy capacity (read Renewables plus Nuclear plus Hydroelectricity) to 500 GW by 2030.
- Annual cooling and heating loads can consume 1,000-1,200 KWhr in a typical home—thereby generating approximately 1 ton of CO₂ per year if sourced from coal.
- India cannot meet its Net Zero emissions targets without nuclear power, as per Anil Kakodkar, eminent nuclear physicist and former chairman of the Atomic Energy Commission.
- And, 8,000 MW of nuclear power plants are at various stages of construction, including the four Kundankulam units and the 500 MW Prototype Fast Breeder Reactor.
- The government formally recognized large hydropower as renewable in 2019. Draft policies under preparation are expected to support stalled hydropower projects and private sector uptake and could include measures to make hydropower tariffs more competitive.

10. INFRASTRUCTURE

Infrastructure investment trusts are steadily making inroads into the Indian financial markets as an instrument of choice for power sector infrastructure. Discuss

KEY POINTS

- Availability of cheap long-term finance is among the most critical prerequisites given the capital-intensive nature of renewable energy technologies which require the majority of costs to be front loaded.
- InvITs are pooled investment vehicles which enable direct investment of capital from investors in primarily operational infrastructure projects.
- In a similar move, the Reserve Bank of India in November 2021 amended foreign exchange regulations allowing foreign portfolio investors (FPIs) to invest in InvIT debt securities.
- This is in addition to the already established rules by the Pension Fund Regulatory and Development Authority (PFRDA) which allow private sector (tier 1) NPS subscribers to invest in units issued by InvITs.
- InvITs are steadily making inroads into the Indian financial markets as an instrument of choice for power sector infrastructure owners to monetise their assets and for investors to gain exposure to the sector. A comparison here with its developed world counterpart, yieldcos, can provide valuable lessons.
- In an Indian context, InvIT norms are more stringent compared to yieldcos with leverage restrictions in place, but investor expectations regarding risk-return dynamics need to be moderated so that a similar situation does not occur in India.

In order to bridge the gap in logistics infrastructure specialized body could be created for each infrastructural sub-sector. Discuss

KEY POINTS

- In the Logistics Performance Index 2018 issued by the World Bank, India ranked at 44 with a score of a mere 2.91 in infrastructure (Germany ranked one with a score of 4.37).
- This points to an infrastructure gap that manifests itself in high logistics-related costs in India (13 per cent of GDP vs 7 per cent for developed nations) and needs to be redressed on war footing for the logistics sector.
- The picture is similar in terms of the air cargo handled. According to the Ministry of Civil Aviation's Annual report 2019-20, India has 23 domestic cargo terminals and 20 international cargo terminals which handled a total of 3.56 million tonne (mt) of cargo in 2018-19.
- Mission Gati-Shakti has been launched as a national master plan for multi-modal connectivity which will bring nearly 16 different ministries and departments of the government together to promote coordinated planning and execution of projects.
- Third party logistics services such as warehouse building and management, and last mile transport provisioning would help bridge critical gaps in the logistics sector.

- National Infrastructure User Committee (NIUC) could be created, which would have representation from various Ministries and private infrastructure companies, to take on-board inputs of private parties and act as a platform to encourage public private partnerships in various projects.

The goal of achieving high economic growth rate in the country relies heavily on infrastructure spending. Analyse

KEY POINTS

- The National Statistical Office (NSO) released the second quarter gross value added (GVA) and gross domestic product (GDP) numbers on indicating the pace of economic recovery in India after the two COVID-19 waves.
- This emphasis on government investment expenditure, supplemented by recovery of private investment expenditure, resulted in gross fixed capital formation (GFCF) showing a positive growth of 1.5%.

Why Infrastructure spending?

- Increase in exports of various goods and services, thus increasing forex earning.
- Better logistics increases the mobility of labour and provide various employment opportunities.
- Better connectivity integrated markets across the country, provide timely supply of raw materials especially in iron and steel manufacturing sector.
- Infrastructure act as engine of economic growth, provides big investments from foreign countries, thus making economy technologically competitive.
- Help optimally utilize the demographic dividend, by providing employment opportunities.

Statistics

- The government is in a significantly stronger position in 2021-22 since the growth in GTR in the first half is 64.2% and the full year growth is expected to be quite robust.
- Thus, the key to attaining a 9.5% real GDP annual growth in 2021-22 lies in the government's ongoing emphasis on infrastructure spending as reflected in government's capital expenditure.

11. S & T

With Indian Space Research Organization being the guiding body, India can now evolve as a space start-up hub for the world. Analyse

KEY POINTS

- According to a report, the Government of India created a new organisation known as IN-SPACe (Indian National Space Promotion and Authorisation Centre) which is a "single window nodal agency" established to boost the commercialisation of Indian space activities.
- Today, the space economy is a \$440 billion global sector, with India having less than 2% share in the sector.
- Another aspect to throw light on is the extensive brain drain in India, which has increased by 85% since 2005.

- The laws need to be broken down into multiple sections, each to address specific parts of the value chain and in accordance with the Outer Space Treaty.
- Another crucial aspect of space law is insurance and indemnification clarity, particularly about who or which entity undertakes the liability in case of a mishap.
- In several western countries with an evolved private space industry, there is a cap on liability and the financial damages that need to be paid.
- The sector is in the embryonic stage where the possibilities are limitless with a scope to build a feasible business model.
- However, to continue the growth engine, investors need to look up to the sector as the next “new-age” boom and ISRO needs to turn into an enabler from being a supporter.

12. ENVIRONMENT

Government of India needs to find long lasting solutions to the problem of man-animal conflicts.

Substantiate

KEY POINTS

- The death of five elephants, four of them cows, caused by trains colliding with them, and all within a week, has again highlighted the gaps in efforts to reduce man-animal conflicts in the country.
- A reply by the Project Elephant division of the Union Ministry of Environment, Forest and Climate Change in May to a set of RTI questions highlighted reasons other than natural causes as having led to the killing of 1,160 elephants over 11 years ending December 2020;
- Installing hanging solar-powered fences, as has been planned in Tamil Nadu and Kerala, and planting citronella and lemon grass, as done in Golaghat district, Assam, to deter elephants are some of the large-scale options.
- The authorities should ensure that there are no illegal electric fences or barbed wire fences, which, instead, can be replaced with the solar powered ones.
- The critical role elephants play in biodiversity conservation must be highlighted, especially to those living in areas close to elephant corridors.
- The Environment Ministry and Ministry of Railways should also expedite proposals for elevated wildlife crossings or eco-bridges and underpasses for the safe passage of animals.
- A finding of the C&AG was that after the construction of underpasses and overpasses in the areas under the jurisdiction of East Central and Northeast Frontier Railways, there was no death reported.

Effective utilization of biomass can be an effective means to raise the green footprint in the country.

Examine

KEY POINTS

- Biomass today is an important fuel in many countries, especially for cooking and heating in developing countries.
- Though the government has been taking steps to make it an important part of India's energy basket, the latest being a move to mandatorily push for biomass co-firing in the thermal power plants.
- It will be successful only if it finds full acceptance among the stakeholders, particularly power generation companies and distributors.
- There is a need to establish proper supply chain and ensure adequacy of stock to achieve the 5 per cent requirement, which increases to seven per cent from the second year.
- There is the issue of additional cash flow burden on independent power producers (IPPs) due to this transition, especially as the IPPs are already in stress due to distribution utilities defaulting on payments.
- According to the government, as a result of these efforts, around 1,400 tonne of biomass has been fired in October and 53,000 tonne of biomass was utilised as green fuel in power plants so far.
- The current availability of biomass in India is estimated at 750 million tonne annually. The estimated surplus biomass availability is at about 230 million tonne annually covering agricultural residues.

The iron and steel manufacturing sectors can rely on the lightest element to reach the net-zero goals. Discuss

KEY POINTS

- The steel industry contributes to roughly 9 per cent of the country's total GHG emissions, which has to be mitigated substantially to achieve this target.
- The steel sector's consumption of coal, emissions footprint and import dependency is set to increase manifold as the government plans to double India's steel manufacturing capacity to 300 million tonnes per annum (mtpa) by 2030.
- Green hydrogen, obtained from the splitting of water using solar and wind power, offers a cleaner alternative for producing steel. This can also help reduce the sector's dependence on imports.
- green hydrogen can replace part of the existing fuel in coal and gas-based iron-making processes.
- Green hydrogen can potentially offset 15-20 per cent of energy consumption in blast furnaces
- The existing coal-based routes (blast furnace and rotary kiln) for iron production do not allow a complete transition to hydrogen.
- A recent study by the Council on Energy, Environment and Water (CEEW) estimates that green hydrogen-based steel is 50-70 per cent more expensive than coal-based technologies.
- While the iron and steel manufacturing sectors are greenhouse gas emissions heavyweights, they can rely on the lightest element to phase down the use of coal and help us reach the net-zero goals.

India must pursue a deep decarbonisation strategy across major sectors encompassing desirable pathways for sustainability. Explain

KEY POINTS

- The initial goals must be pragmatic, and even incremental, as their achievement will lead to a well-calibrated, multi-sectoral decarbonisation strategy with ability to respond to changing situations.
- Decarbonisation of power sector has been the primary focus, as it is the easiest to mitigate with an established policy framework and the maturity of an array of renewable energy technologies.
- Deep decarbonisation of transport, industry and buildings: The initial focus of the transport sector has been on reduction of petro-products consumption, viz BS-VI grade fuels, biofuel blending and e-mobility.
- Heavy-duty applications, e.g., trucking, marine, aviation, will eventually transit to green hydrogen, but we must prepare for fuel-cell trucks quickly.
- The Indian industry has been at the forefront of energy efficiency, thanks to the PAT scheme, under Energy Conservation Act 2001; but this must be scaled up significantly.
- The biggest challenge is in the hard-to-abate sectors, viz cement, steel, plastics, aluminum, which globally account for 9.3 GT CO₂/year.
- Deep decarbonisation of agriculture (land use & carbon removal: India's arable land (1.75 million sqkm) and cattle population (300 million) offer huge potential for farm-based bio-economy, viz efficient production of biological resources.
- Climate finance will also support sustainable forestry management and afforestation as well as agroforestry, resulting in enhanced carbon sinks.

Scrapping old thermal plants for ecological and efficiency reasons should be done carefully. Explain

KEY POINTS

- With issues such as battery storage and grid integration remaining areas of uncertainty with respect to renewables, there can be no getting away from an absolute increase in demand for thermal-based power over the next decade as a baseload option.
- Therefore, the question of how to produce that electricity as efficiently (coal consumed per unit of power generated) and cleanly (low sulphur and carbon emissions) as possible becomes crucial.
- Scrapping plants which are over 25 years old will, according to CEEW, yield a one-time savings of over Rs10,000 crore in terms of avoided pollution retrofits. However, all old plants are not decrepit.
- There is the unmistakable benefit of these plants being fully depreciated.
- A study by Prayas Energy Group says that of the 46.6 GW of active capacity that was commissioned before 2000, 21.6 GW of capacity generates power at a variable cost of less than Rs2.5 per unit.
- Going overboard in closing down plants brings with it a political risk in the event of outages, the call to set up new thermal plants will increase, introducing further environmental and financial risks. A measured approach to the issue is the need of the hour.



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