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G.S PAPER I

1. ART AND CULTURE

Dara Shikoh's pluralistic outlook interest in different faiths, art and architecture, he had a deep understanding of India's diverse culture. Elaborate

KEY POINTS

- Dara Shikoh, was a champion of interfaith understanding, philosopher, artist, architect, translator, poet and administrator.
- Though Dara Shikoh had very little military experience as Shah Jahan had kept him in the court.
- He strove to develop cordial relationships between people by finding commonalities between Hinduism and Islam and bringing their cultures into dialogue.
- His most important works, Majma-ul-Bahrain (Mingling of Two Oceans) and Sirr-i-Akbar (Great Mystery), are devoted to the cause of establishing connections between Hinduism and Islam.
- He not only discovered commonalities but even said that the foundation of the two religions is the same, which is the belief, "One Reality and One God".
- Dara Shikoh acquired proficiency in Sanskrit and Persian, which enabled him to play a key role in popularising Indian culture and Hindu religious thought.
- He translated the Upanishads and other important sources of Hindu religion and spirituality from Sanskrit to Persian.
- it was Dara Shikoh's pioneering work that led to the dissemination of India's culture outside the Subcontinent.
- This is his outstanding contribution to India's intellectual and religious heritage.
- A rare miniature painting showing him with his spiritual masters is preserved in the library of the Aligarh Muslim University (AMU).
- Dara Shikoh, as a true child of India, is an icon for tolerance, harmony and togetherness.

2. SOCIETY

Amidst the pandemic the incidence of poverty has been increasing in the country due to various factors. Do you agree with this view? Examine

KEY POINTS

- The economy has been slowing for nine quarters prior to the outbreak of the novel coronavirus pandemic.



- Unemployment had reached a 45-year high in 2017-18, as revealed by NSO's Periodic Labour Force Survey (PLFS).
- It helps estimate the incidence of poverty, as well as the total number of persons below poverty.
- First time in India's history of estimating poverty, there is a rise in the incidence of poverty since 2011-12.
- Since the majority of India's population (certainly over 65%) is rural, poverty in India is also predominantly rural.
- By 2019-20, poverty had increased significantly in both the rural and urban areas, but much more so in rural areas (from 25% to 30%).

The contributory factors

- Demonetisation followed by Goods and Services Tax made difficult for unorganised sector and Micro, Small and Medium Enterprises to adapt to the reform.
- Private investment fell from 31% to 28% of GDP by 2019-20.
- Exports, which had never fallen in absolute dollar terms for a quarter century since 1991, actually fell below the 2013-14 level (\$315 billion) for five years. Consumption stagnated and household savings rates fell.
- Joblessness increased to a 45-year high by 2017-18 (by the usual status), and youth (15-29 years of age) saw unemployment triple from 6% to 18% between 2012 and 2018.
- Real wages did not increase for casual or regular workers over the same period.

In the context of Human development Index, discuss the various parameters that are required to measure true human progress in the country.

KEY POINTS

- Even before the pandemic, the median household income in India was Rs 15,000 per month.
- The bottom 25 per cent of households (about 300 million people) lived on an income of less than Rs 8,500 per month.
- To make progress on these inequities, there is an additional key measure to that of the GDP the Human Development Product (HDP).

Five parameters:

- The female labour force participation rate. Depending on what definition you look at, currently this number is 11 per cent or 22 per cent.
- The empowerment of women through their economic independence is central to human development.
- Gender income parity- There is no point in more women participating in the labour force if we continue to give them insecure and lower-paying jobs than men.
- Stunting amongst children is about 35 per cent. Reflects the state of our public health, the nutritional status of our people, and environmental conditions.

- Water quality and availability. Tracking a few important indicators can suggest the national trends.
- The quality of polity, measuring the percentage of members of all our legislatures state legislatures and Parliament against whom criminal cases are pending or have convictions.
- Human Development “Product” depend on innumerable important factors education, health, livelihoods, societal norms, political climate, environmental conditions, and more.

Addressing gender inequality in education requires providing social, financial and emotional support to the girl child in the country. Explain

KEY POINTS

- Indian women excelled in the most decorated Olympic Games for India so far. There is no reason for it to be otherwise in any other field, especially education, given the right support.
- It is estimated that over 2.4 crore girls globally are on the verge of dropping out of schools due to the Covid-19 pandemic.
- The problem is not only rooted in poverty and poor quality of school education, but also gender biases and outdated social norms.

Measures needed

- in every locality, a mohalla school or a community learning programme should be started with appropriate Covid norms.
- NITI Aayog, with the help of civil society organisations, had started a community programme led by volunteers called “Saksham Bitiya” in 28 aspirational districts where more than 1.87 lakh girl students were trained in socio-emotional and ethical learning.
- special education zones need to be set up in areas which have been traditionally backward in education.
- For greenfield projects in higher education, 60 per cent of the funding can be accessed as viability gap funding from the central and state governments.
- Behavioural Insights Units (BIU) may be established across states to tackle social issues with the help of ultra-local NGOs/CSOs to reach the last mile.



G.S PAPER - II

3. INDIAN POLITY

It is high time to show the proceedings of the standing committees to public scrutiny in the country as happens in most democracies. Examine

KEY POINTS

- The recent goings-on in the standing committee on information technology has once again drawn attention to the system of standing committees, which is one of the major innovations of our parliamentary system of governance.
- Along with the earlier committees, some of which are mandated by the Constitution, these committees do enormous amount of work for Parliament but generally behind closed doors.
- In this day and age of complete transparency, the committees are forced to function confidentially. This is one of the main reasons why their good work is not known outside Parliament.
- The working of the standing committees are not known to the public properly.
- Departmental standing committee secures the accountability of the executive in the financial sphere.
- Its work is confined to recommendations and providing reports to the parliament.
- Ad-hoc standing committees are dissolved soon as soon as their work gets completed, the minutes of the meeting can be thrown open to the public.
- The working of the standing committees need to shown to the outside by the parliament to uphold its democratic values.
- The present dispensation has little use for parliamentary conventions, practices and precedents, indeed for Parliament itself.
- This needs to be overturned for better functioning of the parliament in the country.

4. JUDICIARY

Though the collegium system is still the best in judicial appointments, but corrections are required in its actual working. Discuss

KEY POINTS

- In 1982 in S P Gupta's case, the Supreme Court gave its approval to the primacy of the state in the matter of appointment of judges.
- It also held that the initiation of the proposal for appointment of a judge to the SC must be made by the CJI after wider consultation with senior judges.
- And no appointment of any judge to the SC or any high court can be made unless it conforms with the opinion of the CJI. Thus, what is known as the "collegium system" was born.



- Governments, irrespective of which party is in power, have from time to time expressed their reservations about the courts taking upon themselves the power to appoint judges.
- The present government tried to dilute the primacy of the judiciary by introducing Article 124 (A) by a constitutional amendment, and by enacting National Judicial Appointments Commission Act, 2014.
- The SC has struck down both the amendment and the Act, the judiciary continues to enjoy primacy in the matter of appointments.
- Three senior-most district judges of Delhi who were directly appointed as Additional District Judge from the Bar with impeccable integrity, have not been recommended for elevation to the High Court by the collegium.
- The collegium system is still the best, but it needs to weed out what is wrong in its actual working.

5. GOVERNANCE

Do you think that the creation of citizens' assemblies will fulfill an essential requirement for good governance in the country? Comment

KEY POINTS

- All governments are expected to perform for the people. This is necessary for the survival of authoritarian governments also.
- Citizens must have a right to information about their governments' performance, and the Right to Information was a good step for strengthening democracy in India.
- The problem for governance is the "missing middle" between spaces for public opinion below, and constitutional forums such as elected assemblies and courts at the top to find democratic solutions to citizens' problems.
- Therefore, building a middle layer of institutions for democratic deliberations amongst citizens has become essential for democratic governance.
- It is time for the next step in the evolution of democratic institutions. Citizens assemblies for democratic deliberation should be formally established in cities, districts and states.
- They should run parallel to formal constitutional bodies that have "decision rights", such as elected assemblies and courts, and must become a source of solutions for them.
- They must be provided resources by the state for their conduct. It is essential they operate independently of the government.
- Therefore, they must be governed by respected citizens with integrity to ensure they remain non-partisan and fulfil their constitutional purpose of filling the "missing middle" in democratic institutions.
- Their meetings must be professionally facilitated to ensure thoughtful consideration of many points of view.



In a data-driven world, the country requires data based policy making for making quality governance decisions. Explain

KEY POINTS

- The new show in town is the game of data. Running for a while now, it is keeping the audience on edge with its volatile and shifting rules.
- The spur towards evidence-based policy making or evidence-based budgeting by governments points to the amassing of large, granular level data about citizens by States.
- Data-based policymaking or budgeting is meant to facilitate the use of evidence to inform programmatic funding decisions.
- Data-based decisions can redress inter and intra-district inequalities through targeted resource allocations.
- States collect enormous amounts of administrative data. However, these administrative data are often not validated. For example, it is well known that the flow of funds below the block level is often opaque.
- Accurate collection, measurement and interpretation of data are critical for data-based decision making to be successful.
- absence of data in certain domains does not necessarily indicate better governance. During the novel coronavirus pandemic, some States were not testing enough.
- Consequently, the data on COVID-19 positive cases were interpreted to seem that some States, especially in South India, were unable to control COVID-19 cases.
- This requires States to invest heavily in both human and technical infrastructure with built-in quality control measures to ensure an interesting twist to the game of data that is now ongoing.

6. GOVERNMENT POLICIES

This rationalization of food policy needs to come up high in priority, with changed policy instruments to ensure food security in the country. Discuss

KEY POINTS

- From more than 70 per cent poor in 1947, the head-count ratio (HCR) of poverty in India dropped to 21.9 per cent in 2011, as per the erstwhile Planning Commission's estimates based on the Tendulkar poverty line.
- There has been tremendous success in this respect, with the country moving from a ship to mouth situation in the mid-1960s to become the largest exporter of rice (17.7 MMT) in 2020-21, amounting to 38.5 per cent of the global rice trade.
- But it has come at a huge cost of groundwater depletion. Future policies need to focus on greater sustainability.
- Indian Council for Research on International Economic Relations on food policy shows that a rational policy of gradually moving towards cash transfers to targeted beneficiaries and can save food subsidy bill.



- This can be achieved without sacrificing the objectives of supporting the vulnerable population as well as giving a fair deal to farmers.
- This needs to be supplemented with diversification in cropping pattern to prevent the problem of hidden hunger.
- The millets and food grains have to reach the entitled beneficiaries in fair price shops via effective governance, these needs cooperative federalism.
- At the same time food has to be made available to citizens, which can be achieved through proper procurement policies by the government.

Interconnection between coercive measures and legal welfare measures can lead the way in formulating criminal laws in various ways. Explain

KEY POINTS

- The Supreme Court recently issued notice seeking a direction to restrain beggars and vagabonds/homeless from begging on traffic junctions to avoid the spread of COVID-19 pandemic.
- It required, instead, a welfare response from the state.
- When decisions about criminalisation are being taken by the legislature the issue sought to be addressed might be better suited to a welfare response.
- Criminalisation of beggary served only to invisibilise beggars without doing anything to address the structural deprivations that drove people to beg.
- Socio-economic marginalisation and poverty may frequently make people susceptible to exploitation, whether through poorly paid/unpaid labour, trafficking and sex work, or indeed, begging.
- It is important to ensure that pimps, brothel owners, and traffickers are held criminally liable for sexually exploiting a person.
- Equally important is to create alternative, providing requisite education and skills, and to have social security nets.
- Focusing on the welfare aspect of exploitative practices also sheds light on structural forms of impoverishment, and on who is most likely to be exploited as a result.
- When evaluating the function or necessity of a criminalisation response to something that is essentially or even partly a welfare issue, it is crucial to question whose interests the law does, in fact, serve.

In accordance with constitution of India, the decision to involve in strike by the employees is made illegal by the government in various ways. Substantiate

KEY POINTS

- Under Article 33 of the Constitution, Parliament, by law, can restrict or abrogate the rights of the members of the armed forces or the forces charged with the maintenance of public order so as to ensure the proper discharge of their duties and maintenance of discipline among them.



- Even the fundamental right to form an association can be restricted under Article 19(4) in the interest of public order and other considerations.
- The Supreme Court in *Delhi Police v. Union of India* (1986) upheld the restrictions to form association by the members of the non-gazetted police force after the Police Forces (Restriction of Rights) Act, 1966.
- While the right to freedom of association is fundamental, recognition of such association is not a fundamental right.
- In *T.K. Rangarajan v. Government of Tamil Nadu* (2003), the Supreme Court held that the employees have no fundamental right to resort to strike.
- There is no fundamental right to strike under Article 19(1)(a) of the Constitution.
- Strikes cannot be justified on any equitable ground. Strike as a weapon is mostly misused which results in chaos.
- Though the employees of OFB have threatened to go on strike, Parliament, which has the right to restrict even the fundamental rights of the armed forces, is well within its right to expressly prohibit resorting to strike.

Do you think that there is a need for a national urban employment scheme for better development in the country? Analyse

KEY POINTS

- A Parliamentary committee has recommended the institution of an urban employment scheme at the national level.
- The pressing need for an urban employment programme should have been obvious to the central government from the very start of the brutal and unplanned national.
- Surveys conducted by private agencies like the CMIE had already indicated truly dramatic job losses in urban India over the past year, accounting for around 65 per cent of the estimated job losses of nearly 20 million jobs.
- This is confirmed by the significant increase in open unemployment rates in urban areas, which have spiralled upwards well beyond the historical highs that were so widely discussed from in the 2017-18 labour force survey.
- The earnings of self-employed declined even more, going down by 20 per cent for men and 10 per cent for women, from their already abysmally low levels.
- Some State governments have attempted to bring in urban employment schemes on their own, but they are so cash-strapped especially after the additional pandemic-related expenditures that were thrust on them by the insufficient spending by the Centre .
- Despite that, the efforts by the State governments of Kerala, Jharkhand, Himachal Pradesh, Odisha and Madhya Pradesh, suggest that there are initiatives that could be built upon and improved.

Do you think that minority schools in the country should be brought under the ambit of Right to education act 2009? Comment

KEY POINTS

- Minority schools are exempt from implementing The Right to Education policy and do not fall under the government's Sarva Shiksha Abhiyan.
- Through a report, the National Commission for Protection of Child Rights has recommended that these schools be brought under both Right to Education act 2009 .
- In 2014, while discussing the validity of exemption under Article 15 (5), the Supreme Court declared the RTE Act inapplicable to schools with minority status with the view that the Act should not interfere with the right of minorities to establish and administer institutions of their choice.
- The report also finds that only 4.18% of total students received benefits such as freeships, free uniforms and books, scholarships, etc. from school.
- The Commission has also found surges in the number of schools applying for minority status certificates after the 93rd amendment was brought in.
- State governments need to introduce strict guidelines on the minimum percentage of minority students that these schools need to admit.
- In 2016, there were 3.8 crore Muslim children in the ages of 6-14 years, of which 2.7 crore children were enrolled in schools and 1.1 crore were out of school.
- The Commission has found the instructions in such schools to be deficient. according to the Commission, include extending both RTE Act and SSA to madarasas, so that the students can receive benefits of free midday meals, text books, uniforms, teaching-learning material, library, play material, computers, smart classes etc.

Government policies and industrial innovations can bring out changes in consumption pattern in order to achieve environmental sustainability and nutritional security. Explain

KEY POINTS

- The food sector in India engages over 50 per cent of the national workforce. Crop irrigation accounts for 90 per cent of the country's freshwater use, leaving groundwater reserves depleted and resulting in acute drinking water shortages every year.
- The number of stunted children in India accounts for almost one-third of the world's cases.
- The good news is that recent scientific studies have derived sustainable diets at the national and state level for India.
- India on average would need to increase the vegetable intake by 2 times that of current levels; increase the fruit, pulses, and other coarse grains intake by 4–5 times, and nuts intake by over 10 times.
- The micronutrient content per unit weight is higher in the coarse cereals than wheat and rice.



- Hence, replacing rice and wheat with these coarse cereals in our diet can create win-win scenarios.
- For example, the Indian government declaring 2018 as National Year of Millets is an excellent example of policy to raise awareness and promote the production and consumption of sustainable food items.
- The nascent but growing AgriTech industry of India has an opportunity to complement the Indian government's efforts with innovative farming and food supply chain solutions.
- For example, rather than using 100 per cent refined wheat (maida) or rice flour, the coarse cereals or lentil flour can be mixed in appropriate proportions.

In order to capture the huge opportunity in biotech sector, the government of India needs to fine-tune the Production Linked Incentive scheme to fit the unique needs of the industry. Discuss

KEY POINTS

- The biotech industry braved the challenges of Covid-19 to develop innovative solutions such as diagnostics, therapies and vaccines at speed and scale to save countless lives.

Fine-tuning the PLI scheme

- Instead of a one-size-fits-all approach, the government needs to fine-tune the PLI scheme to fit the unique needs of the biopharmaceutical industry.
- For example, development of biologic molecules is costly and time consuming, requiring complex clinical studies over 5-7 years.
- In comparison, cost of development and gestational times (1-2 years) is much lower for generic small molecule drugs.
- Hence, the weightage given to regulatory submissions for biologics must be higher than for generic formulations.
- To give a stimulus to export-oriented industries, the SEZ tax holiday benefits need to be reintroduced with a deduction of 50% export profits for the next five years for existing units.
- The government will need to first identify key emerging research opportunities for innovation and bring back the 200% weighted tax deduction covering all R&D expenditures.
- 'As capital is the life-blood of start-ups, the government should augment BIRAC funding to `3,000 crore annually so that it can provide start-ups with the necessary funds to scale up.
- To supplement funding avenues, India Inc should be allowed to set aside a part of their CSR funds to support grants at BIRAC.



Localising the Sustainable Development Goals at the rural level provide an institutional framework that can align with national and global priorities. Explain

KEY POINTS

- Sustainable Development Goals (SDGs) are a global effort that has one major objective achieving a better future for all.
- If India is to achieve its goals by 2030, it must build a mechanism for effectively localising the SDGs one that leverages and integrates the social capital.
- 76 million women have been mobilised into self-help groups (SHGs) under the National Rural Livelihoods Mission and there are 3.1 million elected panchayat representatives.

Local solutions to problems

- The participation of adolescent girls in secondary, higher secondary, and higher education.
- The decline in fertility has a far greater correlation to the participation of adolescent girls in secondary, higher secondary education than any healthcare and family welfare services.
- The formation of collectives: when women came together to form SHGs it created an identity outside of the house.
- Since these women over time had had basic secondary level education, their collectives or SHGs could leverage skills and diverse livelihood opportunities better than others.
- The decision that permits lending of up to Rs 10 lakh without collateral for women SHGs, which was recently been raised by the RBI to Rs 20 lakh.
- Ultimately, localisation efforts should lead to transformation not in social relationships alone, but also the level of economic activity in villages.
- Innovation and collaboration through engagement with community foundations must be advocated for achieving the SDGs.

The government's National Monetisation plan is a promising plan, but, if it is to work as envisaged, several things need to fall into place. Discuss

KEY POINTS

- The National Monetisation Plan has been announced to provide a clear framework for monetisation and give potential investors a ready list of assets to generate investment interest.
- The government has stressed that these are brownfield assets, de-risked from execution risks and therefore should encourage private investment.
- The monetisation will create further value for infrastructure creation in the country and explore innovative ways of private participation without transfer of government ownership.
- The NMP will run co-terminus with the National Infrastructure Pipeline of Rs 100 lakh crore.

- Among the key challenges that may affect the NMP roadmap include lack of identifiable revenues streams in various assets, level of capacity utilisation in gas and petroleum pipeline networks, dispute resolution mechanism, regulated tariffs in power sector assets.
- Slow pace of privatisation in government companies including Air India and Bharat Petroleum Corporation Limited, and less than encouraging bids in recently launched Public Private Partnership initiative in trains, indicate that attracting private investors interest is not that easy.
- The NMP framework notes that other key impediments to the monetisation process are asset-specific challenges like presence of an identifiable revenue stream.
- This is specifically relevant to the railway sector, which has seen limited PPP success as a mode of project delivery.

7. INTERNATIONAL RELATIONS

United Nation's Security Council's response to the multiple stakeholder approach to enhance maritime security would be setting a paradigm for upholding multi-dimensional security. Explain

KEY POINTS

- The fallout of the 2004 tsunami, which took a heavy toll on human and natural resources, led to the creation of an Indian Ocean Tsunami Warning and Mitigation System by the UN in 2005.
- Faced with the increased threat from piracy originating off the coast of Somalia since 2007 to shipping in the western Indian Ocean, the Indian Navy participated robustly as part of a UNSC mandated 60-country Contact Group on Piracy off the coast of Somalia
- An effective legal policy framework must underpin a rule-of-law based approach to securing the maritime domain.
- The open debate will focus on the application of the 1982 UN Convention on the Law of the Sea (UNCLOS), new challenges to peace and security including from non-state actors such as terrorists, pirates and criminal gangs engaged in drug trafficking.
- Securing the sea lanes of communication (SLOCs) that traverse the oceans is of central importance to enhancing maritime security.
- Sharing data on threats to commercial shipping is an important component of enhancing maritime security.
- India's initiative to establish an International Fusion Centre (IFC) for the Indian Ocean region in Gurugram, serves the objective of generating Maritime Domain Awareness on safety and security issues.



In the context of pandemic, a shared digital vision could place the South Asian region on the right track towards the Fourth Industrial Revolution. Explain

KEY POINTS

- The shift to remote work and education has propelled an unprecedented spike in Internet penetration, with even smaller nations such as Nepal recording almost an 11% increase in broadband Internet users.
- In India, COVID-19 accelerated the launch of the National Digital Health Mission, enhancing the accessibility and the efficiency of health-care services by creating a unique health ID for every citizen.
- The pandemic-induced suspension of bricks-and-mortar businesses spurred South Asia's embrace of e-commerce, boosted by digital payment systems.
- Bangladesh alone witnessed an increase of 70-80% in online sales in 2020, generating \$708.46 million in revenues.
- With monetary and health assistance schemes distributed online, 51% of South Asian women were excluded from social protection measures during the pandemic.
- Children too were at the receiving end, with 88% lacking access to Internet powered home schooling.
- The region recorded a 64% decline in sales, with small and women-led firms faring the worst. With COVID-19 transforming work life, the acute skills gap among youth will continue, creating unemployment.
- In India, e-commerce could create a million jobs by 2030 and be worth \$200 billion by 2026. Fintech could drive significant growth and reduce poverty by building financial inclusion.
- To reap the dividends of digital transformation, South Asia needs to address legal, regulatory and policy gaps as well as boost digital skills.

The visionary Act East Policy's success rests on the pillars of peace and trust among neighbours.

Discuss

KEY POINTS

- The initial steps have been taken in calming the roiling waters on the Assam-Mizoram border confrontation.
- the FIRs and cases which were filed against each other's leaders involving have been withdrawn.
- the Assam chief minister's decision to send two ministerial emissaries from Assam to Aizawl is a good gesture to open dialogue and appears to have paid off initially
- These tensions go far beyond interstate border disputes and have regional, national and international repercussions.
- they have adverse economic impacts which are felt most sharply at the local level, leading to a rise in prices and shortage of commodities.
- Herein lies the importance of the concept of a Development Corridor on the border that would have to be agreed to by both sides and guaranteed by the Centre.

- This could build on the natural advantages of the bordering states vegetable, meat and fruit processing, handicrafts and designer handlooms to name just five and create jobs, livelihoods and better incomes for people on the border and beyond, building an equitable supply chain.
- The visionary Act East Policy and its predecessor Look East Policy rest on the pillars of peace and trust, not just better roads and physical infrastructure.
- They depend on good relationships between neighbours which enable economic cooperation, transport and trade not just cultural and social collaboration.

In the context of Indo-Pacific vision, India's approach furthers the prospects for a stable and enduring maritime regime. Discuss

KEY POINTS

- With a long coastline and large island chains spread-eagled across the Indian Ocean, India has a natural seaward orientation, with key sea lanes of communication coursing through its surrounding seas.
- the relevance of SAGAR (Security And Growth For All In The Region) urged the international community to develop a cooperative and inclusive framework for maritime security.
- Freedom of navigation and unimpeded commerce are key to the spread of prosperity.
- advocated peaceful settlement of maritime disputes on the basis of international law, India's acceptance of the award by the Permanent Court of Arbitration in 2014 paved the way for India and Bangladesh to put aside their maritime dispute and forge even closer ties.
- India's role as 'first responder' in the Indian Ocean, whether in thwarting piracy or providing relief after the Boxing Day tsunami in 2004, is well- documented.
- The Indian Coast Guard's operational reach and capability has vastly improved in dealing with environmental hazards and piracy.
- The Indian Navy's state-of-the-art Information Fusion Centre-Indian Ocean Region (IFC-IOR) based in Gurugram hosts officers from the United States, Japan, France, Australia and the United King
- India's natural interests stretch across both the Indian and Pacific Oceans as reflected in its inclusive Indo-Pacific vision.

The signing of the Abraham Accords helped remove strategic obstacles for India and supports the intention of look west policy. Analyse

KEY POINTS

- Abraham Accords deal signed between Israel and a consortium of Arab States led by the United Arab Emirates (UAE) in 2020.
- The recent visit by the Indian Air Force chief to Israel offers a window to study how New Delhi is taking advantage of the Abraham Accords.

- The foundation for these visits was set by the (now former) chief of the Indian Navy, who visited the UAE and Oman, the latter being home to Duqm Port.
- The signing of the Accords has removed a significant strategic obstacle for New Delhi delicate balancing act India has had to play out between the Arab Gulf and Israel over the decades.
- The fact that New Delhi used Iranian airspace and facilities when evacuating its diplomatic staff from Kandahar in July showcases a level of strategic commonality, interest and play on certain issues in the region.
- Keeping this in mind, connectivity projects such as Chabahar Port and Chabahar-Zahedan rail project (project discussions are still on) amongst others remain critical.
- India's strategic play in West Asia will be reflective of its economic growth, and by association, an increasingly important place in the global order.

The post-American power vacuum in the Kabul region will aid China and shape the trajectory of India's foreign policy. Explain

KEY POINTS

- The fall of Kabul in the wake of the American withdrawal from Afghanistan will prove to be a defining moment for the region and the future shape of its geopolitics
- The post-American power vacuum in the region will be primarily advantageous to China and its grand strategic plans for the region.
- Beijing will further strengthen its efforts to bring every country in the region, except India, on the Chinese Belt and Road Initiative.
- India needs trade with China more than the other way round. Unless New Delhi can find ways of ensuring a rapprochement with China, it must expect Beijing to challenge India on occasion, and be prepared for it.
- If there is a concerted effort by China, Pakistan and the Taliban to erase the Indian presence from Afghanistan, there is little India can do about it.
- What is perhaps not yet understood is how the rise of the anti-America axis (China, Russia, Iran, Pakistan and a Taliban-led Afghanistan) and anti-American sentiments in the region would impact India's regional interests
- India's focus is bound to shift more to the Indo-Pacific even though a maritime grand strategy may not necessarily be an answer to its continental challenges.
- The developments in Afghanistan could nudge New Delhi to seek stability, if not peace, with Pakistan.

Amidst uncertainties, India must leverage its soft power earned from its contribution to Afghanistan in various ways. Analyse

KEY POINTS

- India is currently the fifth-largest donor in Afghanistan. The latter is also among the top five recipients of India's external assistance.
- India's total development assistance over the years has been worth over \$3 billion.
- India has established itself over the last two decades as a reliable development partner, having largely delivered on its envisioned projects.
- The former has helped build goodwill and greater people-to-people contact and has involved measures focusing on health, education, capacity development and food security, among others.
- As far as hard infrastructure is concerned, building institutions, roads and infrastructure for power transmission has featured prominently.
- Examples include the parliament building which was inaugurated in 2015, financing the Delaram-Zaranj Highway as well as the 42 MW Salma Dam in Herat province.
- India had also engaged in triangular cooperation under the US umbrella, cooperating with USAID on various programmes like the Afghan Women's Empowerment Programme.
- India follows a demand-driven approach, which implies that the sectors for investment are chosen by the recipient government.
- although its aid is extended as a soft means to gain strategic leverage, it comes without political trappings.
- At the Afghanistan Conference in Geneva in 2020, India announced several fresh development commitments including the construction of the Shahtoot Dam in Kabul.
- India can do much to build a more resilient Afghanistan with respect to climate change and disaster risk reduction with it spearheading global campaigns like CDRI.



G.S PAPER - III

8. INDIAN ECONOMY

Though India's export competitiveness has been improving since 2019, but may lose momentum if inflation remains high. Examine

KEY POINTS

- With the rupee losing significant value against the dollar, the exchange rate can be a possible indicator of the economy's competitiveness.
- When the rupee depreciates, it gives a boost to exports as these become cheaper overseas.
- This is akin to CPI or WPI to show how the prices of goods in general have changed. The index is a basket of six-currencies and 40-currencies (with FY16 as the base year).
- REER, however, is considered a better measure than NEER, since it also considers the domestic inflation in the various economies.
- Higher REER meant exports were more expensive in FY20, and imports were cheaper as compared to FY21.
- The continued increase in crude oil prices is expected to add to the fire. Core inflation the non-food, non-fuel component was at 6.4% 2021.
- The increasing difference between trends of NEER and REER in the last 26 months was due to India's domestic inflation being higher relative to the six major currencies considered.
- With the majority of India's exports being agricultural products, textiles, jewellery, etc, the rise in inflation will adversely impact these.
- Such sectors tend to benefit the most when there is a significant depreciation in the rupee.

In order to make India a start-up nation, fillip has to be given to bring in more domestic capital in the economy. Explain

KEY POINTS

- The year 2020 first set the pace, seeing the most number of new unicorns in a year, with 11 start-ups reaching the milestone only to be topped by 2021.
- India is the largest global exporter of software services, with five of the 10 most valuable software services companies being Indian.
- The government worked hard to connect all Indians through a common digital identity (Aadhaar) and provided bank-account access for all.
- A large number of people migrated to digital services and got accustomed to purchasing and transacting on e-commerce.



Need for domestic capital

- India's technological advancement is still inhibited by a paucity of local capital.
- India invests only \$10 billion a year, with 90% being overseas capital.
- But India requires decisive policy measures, in addition to the Digital India initiative.
- Out of the 59 unicorns, nearly 30 are domiciled outside India, driven outside by outdated forex regulations, non-implementation of relevant federal regulations, tax terrorism.
- Investors like LIC cannot excuse themselves from doing so, citing their lack of knowledge towards such investments.
- India's regulations for trusts, pension funds, and insurance companies have recently been changed to allow their investments in fund of funds.
- What the nation needs at this hour is helpful policies in foreign exchange and taxation that supports more domestic institutional capital.

Considering the flaws in the existing structure, a renewed Good and Services tax regime is the need of the hour for strengthening the tax base of the country. Explain

KEY POINTS

- The GST is strongly co-related to overall GDP. Revenue collection of the GST is dependent on the nominal growth rate of Gross Value Added (GVA) in the economy.
- The Tax to Gross value addition is only about 5% to 6.5% though GVA growth was much higher.
- In the voting, the central government has one-third vote and States have two-thirds of total votes.
- Nearly 45% to 50% of commodity value is outside the purview of the GST, such as petrol and petroleum products.
- States which export or have inter-State transfers or mineral and fossil fuel extractions are not getting revenue as the origin States and need a compensation mechanism.
- Exemptions from registration and taxation of the GST have further eroded the GST tax base compared to the tax base of the pre-existing VAT.
- While most countries have a single rate, India stands out and is among the five countries to have four rates/slabs.
- Petroleum products remaining outside the purview of GST has helped the Centre to increase cesses and decrease central excise.
- Policy gaps along with compliance gaps do need to be addressed. Without proper tax information, infrastructure and base, the States would go in for selective tax enforcement.

Being a part of sunrise sector, the online gaming start-ups of today can be used as an effective tool in skilling the youths of the country. Explain

KEY POINTS

- Online gaming has emerged as a sunrise sector in India, growing faster than any other segment in the media and entertainment industry since 2019.
- People have turned to online games as the preferred source of entertainment, with some gaming companies experiencing 100-200 per cent increase in their users.
- The industry is expected to nearly double its market size from \$1.8 billion currently, to \$3.9 billion by 2025.
- This not only means huge contribution to India's economy, but also two lakh new jobs, new training programmes and a workforce which is ready for the future of work and future of jobs.
- The World Economic Forum (WEF) has indicated that 50 per cent of the workforce will need skilling, reskilling or upskilling to prepare them for the jobs of the future.
- The future is here and we are 290 million people working in industry and service sectors.
- Game-based learning and gamification of learning and skilling are required to achieve this ambitious target.
- Game-based learning is not just fun and more engaging it also proven to be more effective at retention and recall, while gamification incentivises better performance.
- To make India self-reliant and realise the Digital India dream, there's need for early and widespread adoption of emerging technologies in addition to skilled manpower across sectors.

Improving the viability and sustainability of the Business Correspondent model in India can pave the way for government's financial inclusion agenda. Explain

KEY POINTS

- Over 1.1 million Business Correspondents perform millions of such transactions every day all over India, bringing essential financial services to under-banked and unbanked citizens.
- It should not be a surprise, then, that in April 2020 they were recognised as essential service providers.
- Issues - The application of tax deducted at source (TDS) on cash withdrawals and the Goods and Services Tax (GST) on financial transactions conducted by BCs.
- For instance, services provided by a BC for accounts in rural areas and PMJDY accounts are subject to a nil GST rate.
- In most cases, it is impossible for citizens and BCs to avail themselves of the benefit of this provision.
- This is because a BC cannot determine whether the bank accounts that they service are rural or urban, since transactions conducted through IMPS only require the IFSC of the banking institution.
- There is a need for the RBI to examine whether the current implementation of GST regulations duly follows the principles of value-added taxation.
- BCs play an essential role to bring financial services to the poorest citizens and under-banked regions of the country.

Recommendations

- Ensure that all BCs are exempt from TDS
- Apply a nil GST rate to all transactions performed by BCs.
- Examine whether the current implementation of GST regulations follows the principles of value addition.

The labour reforms carried out in Rajasthan sets an example for other states can improve employment rate in the country. Explain

KEY POINTS

- Since labour falls under the Concurrent List of the Constitution, both the Union and state governments can legislate.
- Rajasthan was a pioneer in bringing out major labour reforms in 2014. It didn't take long for states like Madhya Pradesh, Maharashtra, Gujarat and Haryana to follow suit.
- Earlier, Industrial Disputes Act, 1947, covered those establishments which employ 100 or more workers. Rajasthan, Haryana, Gujarat, Maharashtra, Uttar Pradesh, etc, have amended the threshold to 300 or more workers.
- Similarly, several states have also amended the Factories Act, 1948. This Act is applicable to only those establishments that employ 20 or more workers and 40 or more workers (not using power).
- The threshold has been relaxed from the earlier threshold of 10 or more workers and 20 or more workers (not using power).
- Rajasthan, Haryana, Maharashtra, etc, have increased the threshold of applicability of Contract Labour Act to more than 50 workers.
- For instance, Madhya Pradesh amended eight labour laws, including Inter-State Migrant Workers Act, Motor Transport Workers Act and Building & Other Construction Workers Act (1996).
- Gujarat passed Labour Laws (Gujarat Amendment) Bill, 2015, through which it amended 11 existing Acts, including the Unorganised Workers Social Security Act, 2008.
- Maharashtra and Karnataka amended their respective Shops and Establishments Acts in 2017 to allow shops and establishments to remain open 24×7 across the state.

With global demand booming, the Government of India must act swiftly to reorient the export regime in the country. Discuss

KEY POINTS

- Government has notified the rules and rates based on which exporters can claim rebates on taxes paid on their outbound cargo.
- A new scheme was necessitated to replace the erstwhile merchandise exports incentive scheme after the WTO dispute settlement body held it was not compliant with the multilateral trade watchdog's norms.

- The Government is confident that the new scheme, Remission of Duties and Taxes on Exported Products (RoDTEP).
- For some goods, there is a cap on the value of the exported items. Steel, pharmaceuticals and chemicals have been excluded from the RoDTEP.
- Some sectors are concerned about the rates being lower than expected, while engineering firms are worried that taxes on key raw materials are not adequately offset.
- A new foreign trade policy, a couple of smaller export-related schemes and a mechanism to fork out the last two years' pending dues under the earlier export incentive programme.
- Having opted out of RCEP, India is looking to re-ignite free trade pact negotiations with Australia, the U.K., the EU and the U.S.
- As they look to go beyond China to service domestic consumption demand, India needs to aggressively step up to the opportunity.
- Although the second wave's damage on the economy is less severe than the wreckage from last year's national lockdown, domestic recovery is still feeble and uneven.
- Consumption may see some pullback on pent-up demand as well as the impending festive season, but its sustainability is fragile.
- That leaves public capital spending and exports as the two growth engines with feasible firepower to aid the recovery momentum.

Despite improved banking access, India should focus on awareness and credit delivery for better financial inclusion. Analyse

KEY POINTS

- After plugging away at ineffective alternatives, the government hit upon the winning idea of Pradhan Mantri Jan Dhan Yojana in 2014 which resulted in the opening of 43 crore new bank accounts in seven years, winning India accolades from World Bank.
- This makes it somewhat surprising that RBI's newly launched Finance Inclusion Index should assign India a maiden score of just 53.9 out of 100, after assessing 97 indicators on access, usage and quality of financial services.
- These accounts have helped reach benefits from a variety of government schemes from LPG subsidies to Covid relief, directly to women of the household.
- These achievements make a case for policymakers to smooth out irritants such as TDS and GST that impede ease of transacting for BCs.
- Their quick adoption has therefore left a vast majority of new users vulnerable to financial cyber-crime, requiring policymakers to explore new mediums and local languages to educate them on safe use.
- It has been public sector banks who have done much of the heavy lifting on financial inclusion so far.



- It is about time private sector players tailored investment, loan and insurance products for the bottom of the pyramid.

The e-RUPI is an important step towards transparency in welfare aspect, but the government of India must do more for better public service delivery. Discuss

KEY POINTS

- The objective of pre-paid voucher system for welfare benefits is targeted and leakage-proof delivery of welfare support to intended beneficiaries.
- The e-RUPI has been launched to transfer benefits under health ministry's schemes and will be applied to payments for vaccination.
- A voucher for an equivalent amount will be sent directly to the beneficiary's mobile phone in the form of an SMS string, or a QR code.
- Since the beneficiary does not need a smartphone for receiving the voucher, the e-RUPI will be an inclusive.
- The voucher is non-transferable and therefore cannot be used by anyone else other than its recipient.
- However, the risk of identity fraud remains in this scenario, especially because Indians are used to exchanging benefits for cash.
- Exclusion risk has proved to be a potent one in India's past experiences with digital delivery of benefits.
- In the Koili Devi vs Union of India case, currently being heard in the Supreme Court, the court has taken note of the fact that three crore ration cards were cancelled at the central level and has sought a response from the Union government.
- While establishing systems to eliminate pilferage in welfare delivery, the government must be alive to the need for adequate safeguards for the most vulnerable.

9. AGRICULTURE

An effective implementation of Sub-Mission on Fodder and Feed scheme will play a major role in increasing the return on investment for farmers in the country. Discuss

KEY POINTS

- A major stumbling block faced by Indian farmers pertains to the lack of affordable good quality feed and fodder for livestock.
- A study by the Indian Grassland and Fodder Research Institute has observed that for every 100 kg of feed required, India is short of 23.4 kg of dry fodder, 11.24 kg of green fodder, and 28.9 kg of concentrate feed.
- This is one of the chief reasons why Indian livestock's milk productivity is 20%-60% lower than the global average.
- The Sub-Mission on Fodder and Feed intends to create a network of entrepreneurs who will make silage (the hub) and sell them directly to the farmers (the spoke).



- The large-scale production of silage will bring down the input cost for farmers since silage is much cheaper than concentrate feed.
- The scheme will provide 50% capital subsidy up to ₹ 50 lakh towards project cost to the beneficiary for infrastructure development .
- A major challenge in the feed sector emanates from the fact that good quality green fodder is only available for about three months during the year.
- Under the fodder entrepreneurship programme, farmers will receive subsidies and incentives to create a consistent supply chain of feed throughout the year.
- The idea is that farmers should be able to grow the green fodder between two crop seasons and entrepreneurs can then convert it into silage.

A renewed effort for edible oil self-sufficiency in the country should have a multi-level strategic approach. Elaborate

KEY POINTS

- The Centre has announced a Rs 11,040 crore package to boost palm oil output, of which it will bear 80 per cent.
- A novel feature of this package is the promise of price support to growers. This is apart from the prevailing policy of supporting growers through the five-to-seven year gestation period.
- Palm oil appears to grow best in tropical forest conditions where water is abundant. It has replaced pristine forests in Indonesia and Malaysia.
- The Centre's intent to cultivate the Andamans is truly disturbing, while forest tracts in the north-east have already been impacted.
- For farmers who are used to growing two crops of paddy in a year, prompting a shift to oil palm, which yields annually, will not be easy.
- The effort here is to replicate the sugarcane model. But before going down this road, it is worth noting that there are serious health concerns around palm oil (which accounts for over 40 per cent of edible oil consumed in India).
- Pristine forests should not be impacted at the cost of human greed.
- India's self sufficiency drive should be a multi-pronged one, using tariffs the fall in which led to the post-1995 flood of imports and production incentives for all edible oil varieties.

Bio-fortification of food points towards the beginning of a new journey from food security to nutritional security in the country. Examine

KEY POINTS

- Leveraging science to attack the complex challenge of malnutrition, particularly for low-income and vulnerable sections of the society, who cannot afford balanced diversified diets, can be a good intervention.



- Scientists at the Indian Council of Agricultural Research (ICAR) have been developing biofortified crops in India with a view to eradicating malnutrition amongst the poor sections of the society.
- As per the ICAR website, they had developed 21 varieties of biofortified staples including wheat, rice, maize, millets, mustard, groundnut by 2019-20.
- It is worth noting that these varieties are not genetically modified they have been developed through conventional crop breeding techniques by our own scientists.
- Other factors like poor access to safe drinking water and sanitation, low levels of immunisation and education, especially of women, contribute equally to this dismal situation.

New approach

- Targeted programmes for improving the educational status of girls and reducing the school dropout rates, particularly at the secondary and higher educational levels, need to be promoted.
- Innovations in biofortified food can alleviate malnutrition only when they are scaled up with supporting policies.
- This will generate remunerative income for farmers and fuel the scaling-up of the unfolding technology.
- A national awareness drive on the lines of the “Salt Iodisation Programme” launched by the government to achieve the desired goals of poshan for all.

10. ENERGY

India's energy transition requires complementary technology solutions for achieving carbon emission reduction goals on a long term. Analyse

KEY POINTS

- The global automotive landscape is transforming amid growing concerns on reducing dependency on fossil fuels and mitigating carbon emissions.
- As per IEA, during 2019-40 the energy demand and carbon emissions from road transport in India are likely to more than double along with oil import dependence increasing to 90 per cent.
- India will need to promote mass electrification by leveraging all electrified technologies (xEV), alternate fuels and hydrogen fuel technologies for realising reduction of oil import.
- To localise EV parts, it is crucial to ensure investment viability for which both supply-side incentives and high level of demand are required.
- For investment viability a key strategy is to aggregate demand for EV parts across different applications and various electrified technologies including hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs) and BEVs as all these have common EV parts.
- India is promoting fuel efficiency through Corporate Average Fuel Economy regulations and is encouraging BEV adoption.

- The logical and scientific approach is to adopt a merit-based taxation regime that provides all xEVs suitable preferential GST rate.
- Moreover, with increased consumer adoption, EV part costs can decline rapidly due to scale thus further accelerating shift to BEVs.
- This can create the manufacturing base for future technologies like hydrogen vehicles once that ecosystem begins to mature.

11. S & T

A structured approach is required for better cyber-security infrastructure during the process of an initial public offering. Elaborate

KEY POINTS

- While the value of personal data is being realised by individuals across the world, enterprises have been slow on the uptake and have not fully grasped the magnitude of cyber threats.
- A structured approach is required to ensure that cybersecurity doesn't appear as an after-thought during the pre-IPO phase.
- Considerable investment in cyber-security, a security breach doesn't only mean a loss in reputation but can also result in a class-action suit.
- Appoint an internal Chief Information Security Officer for supervision.
- Updated and appropriate cybersecurity framework in place.
- Ensure cyber risk is a part of the Enterprise Risk Management programme, as well as part of Board level discussions.
- Ensure that key assets core to your business are always secure.
- Establish processes to respond to attacks to mitigate their impact.
- Embed cybersecurity and privacy by design in the overall IPO readiness roadmap.
- Effective planning is critical to seize an IPO opportunity and develop the structure necessary for a public company.
- It is imperative for organisation to focus in areas such as investors relations, corporate governance, tax, human capital, including cybersecurity posture and financial reporting and identify possible gaps.

Central Bank Digital Currency is a new technological innovation designed to overshadow impact caused by the crypto currency. Do you agree with this view? Comment

KEY POINTS

- Unlike crypto currencies which can be lost and stolen, CBDCs will be an alternative to physical currency, safe, robust and convenient payment instrument.

- They are neither backed by assets such as gold and foreign reserves, nor issued by the central bank with full guarantee of the government.
- They do not represent the liability of any central bank or government.
- Central banks owned by governments or enjoying independent statutory status are its creators.
- CBDCs can leave behind trails; but it can be remedied through tokenization.
- Whether it can be transferred anonymously and accumulated secretly will depend upon the operational architecture designed by the central bank.
- Digital rupee, when introduced, will not completely replace or drive away physical currency from circulation.
- It will not replicate electronic money either. Even developed nations have not thought of doing away with cash altogether.
- CBDCs, if successfully implemented, can lead to loss of business for credit and debit card issuing banks and supporting companies.
- CBDCs are not designed to compete with crypto currency. Crypto assets are based on technology designed to circumvent authority and banish central bank money to create economic anarchy.
- The biggest challenge for monetary authorities would be to restrict the use of CBDC within national boundaries.

Do you think that utilization of free and open source software can help in development of government applications effectively? Comment

KEY POINTS

- In 2015, the Indian government announced a policy to encourage open source instead of proprietary technology for government applications.
- Free Open Source Software can actually create more trust between the government and citizens.
- FOSS communities can examine the open-source code for adherence to data privacy principles, help find bugs, and ensure transparency and accountability.
- Many solutions launched by the government including Digilocker, Diksha, Aarogya Setu, the Covid-19 vaccination platform CoWIN built on top of open-source digital platforms have benefited from valuable inputs provided by volunteer open-source developers.
- The case of FOSS, there appears to be an absence of one clear “owner”, which makes it harder to identify who is responsible.

Measures required

- The first step is to incentivise the uptake of FOSS in government. The government’s policy on the adoption of open-source software requires all tech suppliers to submit bids with open source options.
- Creating a repository of ready-to-use “GovTech-ised” building blocks, can help departments quickly identify and deploy FOSS solutions in their applications.



- FOSS innovations can be encouraged through “GovTech hackathons and challenges”, bringing together the open-source community to design solutions for specific problem statements identified by government departments.

12. ENVIRONMENT

The shutting down of old coal power plants, which are major contributors to emissions, could help in achieving India’s Nationally Determined Contributions. Analyse

KEY POINTS

- The research studies have also argued in favour of it, citing the economic and the environmental benefits of shutting down coal older plants.
- It would be uneconomical for old plants to install pollution control equipment required to meet the emission standards.
- The recent order from the Central Electricity Regulatory Commission (CERC) allowing Delhi’s BSES distribution company to exit its concluded 25 year old power purchase agreement with the National Thermal Power Corporation Limited’s Dadri-I generating station, also lends some credence to this.
- There are also several old plants, which generate at lower costs. For instance, plants such as Rihand, Singrauli (both Uttar Pradesh), and Vidhyanchal (Madhya Pradesh), are all over 30 years old and have very low generation costs of around ₹ 1.7/kWh, which is lower than the national average.
- This may be due to locational advantage rather than efficiency, as older plants are likely to be located closer to the coal source, reducing coal transport costs.
- Considering the various technical, economic and operating characteristics of individual plants and units, while also accounting for aspects such as intermittency of renewables, growing demand, and need to meet emission norms, would be appropriate to make retirement-related decisions.

The Inter-governmental Panel on Climate Change has issued strongest warning on global warming points to an opportunity that still exists. Elaborate

KEYPOINTS

- The IPCC’s Working Group I has called for deep cuts to carbon dioxide emissions and other greenhouse gases and a move to net zero emissions, as the world would otherwise exceed 1.5°C and 2°C of warming during the 21st century with permanent consequences.
- The new report attributes catastrophic events to sustained global warming, particularly the frequency and intensity of hot extremes, marine heatwaves, heavy precipitation.
- More than five years after the Paris Agreement was concluded, there is no consensus on raising ambition to reduce emissions, making access to low carbon technologies easier.
- The IPCC’s analysis presents scenarios of large-scale collapse of climate systems that future leaders would find virtually impossible to manage.

- Heatwaves and heavy rainfall events experienced with increasing frequency and intensity are just two of these, while disruptions to the global water cycle pose a more unpredictable threat.
- The only one course to adopt there is for developed countries with legacy emissions to effect deep cuts, transfer technology without strings to emerging economies and heavily fund mitigation and adaptation.
- Developing nations should then have no hesitation in committing themselves to steeper emissions cuts.

Rather than net zero carbon goal, definitive equitable cumulative emission targets can be the key to achieve Paris agreements' temperature goals. Analyse

KEY POINTS

- According to the Intergovernmental Panel on Climate Change (IPCC), Global surface temperature is now higher by 1.07 degree Celsius since the pre-industrial era.
- Carbon dioxide is the dominant source of warming. Aerosols contribute to reducing the impact of warming by other greenhouse gases, by almost a third.
- A major finding of the report is that air pollution reduction and steep climate change mitigation are not complementary goals but require independent efforts over the short and medium term.
- Reaching net zero was not the determining factor for the world to limit itself to a 1.5 degree Celsius , or 2 degree Celsius, or indeed any specific temperature increase.
- The report is clear that it is the cumulative emissions in reaching net zero that determine the temperature rise.
- It also noted that the developed countries had usurped far more than their fair share of the global carbon budget.

Need of the hour

- Focusing on definite cumulative emission targets keeping equity, immediate emission reductions by the developed countries with phase-out dates for all fossil fuels.
- Massive investment in new technologies and their deployment, and a serious push to the mobilisation of adequate climate finance.

Effects of Climate change and its dramatic consequences must be a catalyst for enhanced Arctic cooperation. Explain

KEY POINTS

- It is tempting to view the current geopolitics of the Arctic through the lenses of the 'great power competition' and inevitable conflict of interests.
- Keeping in mind the existential threats, the environmental challenges should be an absolute priority for all players in the Arctic region.
- Arctic summer sea ice levels have declined by more than 10% each decade since the late 1970s and mountain glaciers have shed roughly 250 billion tonnes of ice annually over the last century.

- According to The World Climate and Security Report 2020, the Arctic is warming nearly twice as fast as the rest of the planet with consecutive record-breaking warm years since 2014.
- A good example to be highlighted is the recent case of a Norwegian drilling project; it was taken to the European court by the group of environmentalists.
- Their main argument is that the negative impact of mining activities can spread beyond the continental shelf of Norway.
- The environmental transformation and rapid ice melting have also opened up new opportunities in the region, which includes trans-Arctic shipping routes.
- China, for example, with its self-proclaimed status of a 'near Arctic state', has been actively engaged in various projects across the region.
- All the Arctic actors should have a long-term vision and strategic goals as compared to immediate short-term gains.

Vultures being a key stone species provide eco - system services in various ways. Discuss. Suggest various measures needed to conserve it.

KEY POINTS

- Vultures are slow breeders and so the survival of every individual is very crucial. With their excellent eyesight and strong sense of smell, vultures can detect the presence of dead animals from great distances.
- Vultures have a highly acidic stomach that helps them digest rotting carcass and kill disease-causing bacteria.
- Diclofenac, which relieves cattle of pain, is toxic to vultures even in small doses and causes kidney failure and death.
- Vultures not only keep our environment free of carcasses but also help control disease outbreak
- Removing vultures from the ecosystem leads to inefficient clearing of carcasses and contaminates water systems.
- The vultures that consume such flesh prevents the carriers of disease.

Steps to increase numbers

- To tackle this problem, India banned diclofenac for veterinary use in 2006. Five States are to get vulture breeding centres under the Action Plan for Vulture Conservation for 2020-2025, approved in October 2020.
- There are no rescue centres for treating vultures as of now, so this too has been mooted under the Plan.
- Vulture 'restaurants', which exist in some countries, are also a way of preserving the population.
- In these 'restaurants', diclofenac-free carcasses of cattle are dumped in designated areas where vultures gather to feed.



Beyond the presence of Montreal Protocol and Kigali amendment, the world needs to act on many ozone-damaging emissions. Discuss

KEY POINTS

- The Montreal Protocol, viewed as one of the most successful international treaties, seeks to bring down use of chemicals depleting the planet's stratospheric-ozone.
- The Kigali Amendment that was adopted globally in 2016, and became effective in 2019, aims to limit the use of hydrofluorocarbons (HFCs).
- HFCs are not ozone-depleting, but carry catastrophic warming potential, given they are almost a thousand times more potent than carbon dioxide.
- The Kigali Amendment tasks industrialised nations to cut production and use of HFCs by 85% of the 2011-2013 levels by 2036.
- The Amendment is certainly ambitious, given HFC usage in cooling and refrigeration vis-a-vis the growing need for these with climate-change making intense heatwaves more frequent than ever before.
- India has assumed a leadership role in ozone action under the Montreal Protocol, and its ratification of the Amendment presents a lot of opportunities.

New challenges to ozone

- Beyond the Montreal Protocol, as it exists now, the world needs to act on many ozone-damaging emissions.
- Anthropogenic emission of nitrous oxide plays a significant role in stratospheric ozone depletion directly and by moderating depletion by chlorinated chemicals.
- Space exploration poses a significant threat to the ozone layer that had begun healing from historical depletion following action under the Montreal Protocol.
