1. Discuss the marine resource endowment of India. What are issues pertaining to the efficient and sustainable extraction of marine resources?

Approach:

Question is asking you to discuss, it requires you to write a debate where one has to use your skill at reasoning, backed up by deliberately selected evidence to make a case for and against an argument.

Introduction:

The third largest and gifted ocean in the world "Indian ocean" surrounds India on three sides. With an exclusive Economic Zone (EEZ) of 2.02 million sq.km and a long coastline of 8,118 km with rich and diverse marine living resources, the Indian Government is promoting 'Blue Growth Initiative' which focus on utilisation of wealth from the marine and other aquatic resources of the country for improving the lives and livelihoods of fishermen and their families.

Body:

THE MARINE RESOURCE ENDOWMENT OF INDIA

- Manganese nodules contain significant concentrations of manganese, iron and copper, nickel, and cobalt all of which have a numerous economic use.
- Indian Ocean contain vast amount of minerals, including the cobalt, zinc, manganese and rare earth materials. These minerals are needed for electronic industry to make smart phones, laptops and car components etc. This can help Make in India initiative.
- Seawater contains economically useful salts such as gypsum and common salt. Gypsum is useful in various industries.
- Marine fisheries wealth around Indian coastline is estimated to have an annual harvestable potential of 4.4 million metric tonnes. It will lead to food security through fishery sector and other sea food resources. It would also help in reducing malnutrition issue in India as fishes are good source of nutrition.
- The main energy resources present in Indian Ocean are petroleum and gas hydrates. Petroleum products mainly includes the oil produced from offshore regions. Gas hydrates are unusually compact chemical structures made of water and natural gas. It will help in diversification of energy resources and will provide new resources for energy e.g., gas hydrates.
- Marine resources from Indian Ocean can serve as the backbone of India's economic growth and can help India to become a 5 trillion-dollar economy by 2022. Blue economy, through sustainable use of oceans, has great potential for boosting the economic growth.

ISSUES PERTAINING TO THE EFFICIENT AND SUSTAINABLE EXTRACTION OF MARINE RESOURCES

- Oil spills are considered to be a major cause of marine pollution. Leakage from tankers during transportation of crude oil, a collision of tankers, rigs operation, pipeline leaks and washing of tankers are major sources of oil spills. Oil spills destroy the fish habitats and alter the ecological conditions of seawater which led to the mass mortality of fish and other organisms.
- Extinction of a species affects other species is accelerating the extinction of more species through a chain reaction.
- every year tsunamis, cyclones, hurricanes typhoons etc. leave thousands of people stranded and property worth millions destroyed.
- Increasing population density, industrial growth and socio-economic development is giving rise to a variety of activities, the collective impact of which is multiplying the pressures on the coastal zone and its resources.
- Impact of climate change or the changes in sea temperature, acidity, threaten marine life, habitats, and the communities that depend on them. Burning of fuels, industrialization, urbanization, etc. are major sources of different harmful gases such as CO2, CH4, NO and CFCs which led to the production of the greenhouse effect. The heating of earth's surface resulting into melting of ice in glaciers and poles are expected to further raise the sea level in the range of 21–71 cm by the year 2070. This could mean that many fisheries dependent on upwelling will suffer or cease to exist.
- Adverse environmental change, especially in spawning habitats, decreases the stock strength of the coastal fish. The lack of a sustainable management regime is accelerating the rate of resource decline further.
- Marine pollution in form of excess nutrients from untreated sewerage, agricultural runoff, and marine debris such as plastics
- Overexploitation of marine resources like illegal, unreported, and unregulated extraction of marine resources.

Conclusion:

India is poised to emerge as a major maritime and naval power. It has placed the Blue Economy high on its agenda for economic growth. The essential objective is to develop Blue Economy through a robust regulatory framework which contributes to sustainable use of existing natural resources. The Indian government encourages proactive and facilitative governance which supports job creation, encourages innovation, and provides opportunities for knowledge-based businesses in key maritime sectors, within the framework of the nation's pursuit of Sustainable Development Goals (SDGs). India being rich in marine biodiversity, there are opportunities for providing financial benefits to the coastal communities and the

profit made should encourage the community to conserve the reckless deteriorating biodiversity.

2. What are the factors responsible for the high fuel cost in India? How can the government address the rising cost? Suggest.

Approach

Mention the factors responsible for the high fuel cost in India and then suggest how can the government address the rising cost.

Introduction

Petrol is now retailing above Rs 90 per litre in all major cities including Delhi and is on the verge of crossing Rs 100 in major cities. It has already hit a century in some circles. Diesel, too, has climbed to levels never seen before in the country. Experts have said the continuous increase in fuel prices will have a widespread impact on citizens and the overall economy.

Body

THE FACTORS RESPONSIBLE FOR THE HIGH FUEL COST IN INDIA

- Firming of international crude oil rates and extremely high taxes levied on the fuel are the key reasons behind the latest round of petrol and diesel price hike in the country.
- International crude oil price including the Indian basket of crude, which comprises Oman, Dubai and brent crude. Global crude oil prices have been increasing after organisation of the petroleum exporting countries (OPEC)-plus decided to continue supply curbs.
- Crises in countries like Venezuela and Iran are increasing. There is a pressure on oil prices due to decrease in production.
- Global currencies have weakened against the US dollar. As the rupee value is depreciating, oil refineries have to pay more rupees to import crude oil. This is also one of the reasons why fuel prices are high.
- Being the third-largest importer of oil in the world, the recent firming of international crude oil prices has severely impacted India, where citizens are paying extremely high rates for fuel in comparison to neighboring countries.
- The biggest reason behind higher fuel prices in the country is the high rate of central and state taxes. At the moment, Indians pay one of the highest taxes on fuel in the world.
- Since India follows a dynamic system for altering fuel rates, oil marketing companies are mostly responsible for the recent hikes and the government has no control over it. However, the government does impose a tax on the base price of fuel.

HOW CAN THE GOVERNMENT ADDRESS THE RISING COST?

- Reducing taxes on petroleum products will result in a reduction in costs of transport and thereby reduces the price of many consumer goods. This will result in an increase in markets and economy and also reduces the burden on common people.
- Instead of depending on these taxes on petrol & diesel, the Indian government needs to create more revenue sources such as increasing the number of people that pay income tax, recovering bad loans of public sector banks etc.
- More and more people are buying their own vehicles, especially after witnessing the pandemic and hence the demand for petrol and diesel is increasing and thereby the pressure on foreign exchange reserves and 'Trade deficit 'are increasing. This will further lower the value of the rupee. To reduce the dependence on crude oil imports, there is a need to invest in the exploration of crude oil reserves in the country.
- There is a dire need to encourage people to use electric vehicles and to use renewable energy resources. This will reduce the burden on foreign exchange reserves as well as leads us towards eco-friendly living.

Conclusion

If the crude oil prices are increased in the coming days, there will be a huge burden on people whether they own a vehicle or not. Because high fuel prices increase the cost of transport and thereby increases the price of consumer goods. To avoid that situation, the government needs to work on reforms in petroleum pricing.

3. Examine the factors responsible for the prevalence of water shortage in different parts of the country. To what extent can river interlinking address this problem? Discuss.

Approach

The candidate needs to examine the factors responsible for prevalence of water shortage in different parts of the country in the first part of the answer while also discussing the extent to which river interlinking can address the problem of water shortage in the second part of the answer.

Introduction

Water touches every aspect of life, and in India uncertainty over access to and the availability of this basic resource is reaching crisis levels, as is evident from NITI Aayog Report, Composite Water Management Index (CWMI), which said India is facing its worst water crisis in the history.

Body

In this light, factors responsible for the prevalence of water shortage in different parts of the country include –

1. **Insufficient water per person:** With a population of 1.2 billion according to 2011 census, India has only 1,000 cubic meters of water per person. A nation is water-stressed if it has less than 1,700 cubic meters per person per year.
2. **Rapid Urbanization:** India is urbanizing rapidly. This implies heightened water demand from households, industry and agriculture. Concretization also reduces the ground-water replenishment.
3. **Poor water quality:** resulting from insufficient and delayed investment in urban water-treatment facilities. Water in most rivers in India is largely not fit for drinking. Despite the Ganga Action Plan, launched in 1984 to clean up the Ganges River, much of the river remains polluted with a high coliform count.
4. **Over-exploitation:** In the last four decades, about 85% of the total addition to irrigation has come from groundwater. This is clearly unsustainable resulting in steep depletion of the groundwater table.
5. **Policy Issues:** Groundwater is used to cultivate water-intensive crops like paddy and sugarcane (promoted by Green revolution) in rain deficit states like Punjab and Maharashtra respectively. State procurement policy and subsidized electricity in Punjab make it profitable for farmers to produce rice.
6. **Mismanagement of Water resources**: There are leakages in the water supply systems. India receives an average annual rainfall of 1170 mm but due to poor storage infrastructure, it stores only 6% of rainwater.

7. **No Reliable Data:** There is no single water database for the country. In 2016, the standing committee on water resources of the Indian parliament finally recommended having a national groundwater database but there is no progress in this regard.

The National River Linking Project (NRLP) formally known as the National Perspective Plan, envisages the transfer of water from water 'surplus' basins where there is flooding to water 'deficit' basins where there is drought/scarcity, through inter-basin water transfer projects. In this regard, river interlinking can tackle India's water shortage as explained below –

- **To overcome large variation in rainfall and available water resources in space and time:** In a monsoonal climate that is already erratic and highly seasonal in nature. For example, nearly half of India's farms (49%) rely solely on rain for their water. These are hit the hardest by disrupted monsoon rains.
- **Diversion of water from water surplus basins to water deficit basins/regions**: It is the inter-basin water transfer where parched regions of peninsular and water stressed regions will have regular supply of water.
- **Use of the surplus water which is otherwise flowing into the sea unutilized**: The project claims to provide additional irrigation to 35 million hectares (m ha) in the water-scarce western and peninsular regions.
- **To mitigate likely adverse impact of climate change, short term and long term**: Interlinking of rivers will reduce regional imbalances significantly and provide benefits by the way of additional irrigation potential, domestic and industrial water supply, hydropower generation, and transport facilities.

But at the same time, it is necessary to consider the negative effects of river interlinking in India in terms of its overall impact –

- The interlinking of river envisages the building of many dams, canals and tunnels with some of them having high lifts up to 120 m. This will lead to a huge social and environmental cost. The recent example is the proposed Ken-Betwa link, which puts in danger over 4,100 hectares of forest land.
- Along with the ecological cost, the project will also bring a great human cost in terms of those displaced by it where there exists no estimate to the number of people who will be affected by the river linking project.
- Expensive proposition: Interlinking of rivers is a very expensive proposal where initially, more than Rs.5,00,000 crore was estimated as the total project cost.
- It will not only add to climate change impact through destruction of forests means destruction of carbon sinks, and reservoirs in tropical climate are known sources of methane and carbon dioxide, but will also reduce our capacity to adapt to climate change.
- The interlinking would also require India to enter into agreements with Nepal and Bangladesh, as these countries share the basins of the Ganga and Brahmaputra river systems. But both are apprehensive about the project.

Way forward –

- River rejuvenation ought to be a policy priority of the Centre and state governments. There is a need to leverage Information Technology to revamp water-related data systems, which seem to be sorely lacking in coverage, efficiency or robustness.
- Sustainable operations and maintenance of irrigation systems must be boosted. There is a need to follow conservation agriculture i.e. farming practices adapted to the requirements of crops and local conditions.
- Decentralised approach, with a key focus on water conservation, source sustainability, storage and reuse wherever possible. A participatory approach is needed in water governance.

Conclusion

The interlinking of rivers project is a major challenge as well as an opportunity to deal with the water related problems where long term strategy to water deficit problem lies in tackling the challenges of interlinking of rivers but short term measures also need to be prioritised for better and early results.

Additional Information:

- Under the National Perspective Plan (NPP) prepared by Ministry of Water Resources, NWDA has already identified 14 links under Himalayan Rivers Component and 16 links under Peninsular Rivers Component for inter basin transfer of water based on field surveys and investigation and detailed studies.
- Out of these, Feasibility Reports of 14 links under Peninsular Component and 2 links (Indian portion) under Himalayan Component have been prepared. Draft Feasibility Reports of 7 link projects (Indian portion) of Himalayan Component have also been completed.
- The biggest, cheapest, most benign, possibly fastest and most decentralized storage option for India is the groundwater aquifer.

4. Good governance is the cornerstone of a successful pandemic mitigation strategy. Comment.

Approach

Candidates are expected first to write about the Good governance and its basic characteristics. Then comment on how good governance is the cornerstone of a successful pandemic mitigation strategy with proper substantiation.

Introduction

In times of crisis such as the current COVID-19 pandemic and its economic and social repercussions, public governance matters more than ever. Governance arrangements have played a critical role in countries' immediate responses, and will continue to be crucial both to the recovery and to building a "new normal" once the crisis has passed.

Body

Good governance and its characteristics:

- In the 1992 report entitled "Governance and Development", the World Bank set out its definition of Good Governance. It defined Good Governance as "the manner in which power is exercised in the management of a country's economic and social resources for development".
- Good governance has 8 major characteristics.'It is participatory, consensus-oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law.

Good governance as a cornerstone of a successful pandemic mitigation strategy:

- During the COVID-19 pandemic the challenges have become extraordinarily difficult due to the speed and scale of COVID-19 response programs, work overload on implementing and accountability institutions, including media and civil society, and workforce safety concerns and lockdowns.
- The public investment, be it for obtaining necessary health products and supplies, or for providing essential public services is channelled mainly through public procurement. Therefore the impacts of chosen procurement strategies have an immediate effect on the effectiveness of policies and efficiency of administration for dealing with the pandemic and its social and economic consequences.
- The trends in policy-making towards a more pro-active approach to building strategies that reduce risk, enhance resilience, and focus on recovery and functionality by Good Governance has been a new Toolkit.
- The crisis has created environments that was ripe for corruption and bribery. Identifying and addressing corruption risks thus was crucial to protect trust in

public institutions and business, and to galvanise public confidence in the governments' ability to mobilise an effective crisis response.

- Issues such as trust in government and trust in expert advice, and the boundary between the experts and the political decision-making interface were brought to the fore by the crisis. Governments faced with the need to synthesise information from multiple sources and actors, and to use it to feed into governments' plans and decision making to tackle crisis.
- Maintaining a trusted connection between decision makers and the scientific suppliers of evidence, is essential for effective decision making in an environment faced with very high uncertainty. For example, by including experts from a variety of backgrounds this ensures that decisions are informed by credible, neutral advice.
- The consultation of civil society organisations, the private sector, citizens, and international organisations can contribute to the quality of the advice given, as well as add credibility and inclusiveness.
- Effective public communication by the central government and Behavioural communication campaigns have played an important role in facilitating the enforcement of regulations, by nudging or instructing wide segments of the population to comply with required measures – from washing their hands, to respecting the provisions of lockdowns and social distancing.
- One of the more visible strategy has been Aarogya Setu mobile app, which was rolled as e governance model and uses a combination of bluetooth, global positioning systems (GPS), artificial intelligence (AI)and data analytics for contact-tracking and contact-tracing.
- The outbreak of the pandemic has seriously disrupted the functioning of both these institutions which have hitherto been in charge of ensuring executive accountability. However, the present crisis has unfolded a situation where ensuring extraordinary governmental accountability, transparency and responsiveness are crucial like never before.
- Unfortunately, however, the lockdowns imposed by governments to contain the virus had also affected the operation of the information regime in many countries, including India. RTI/FOI activities came to a stand-still in these countries in the early phases of the lockdowns, making it impossible for the public to access critical government information.

Conclusion

The effective functioning of governance is the prime concern of every citizen of the country. The citizens are ready to pay the price for good services offered by the state, but what is required is a transparent, accountable and intelligible governance system absolutely free from bias and prejudices

5. Discuss the key challenges being faced by infrastructure financing. How can those be addressed?

Approach- Question is straight forward. Candidate can outline the issues faced by the India in financing infrastructure projects. Way forward can be given citing some examples and data.

Introduction

India's infrastructure at the beginning of the century was in need of a total overhaul. It was a drag on the rapid growth of the country's economy and adversely affected the lives of Indian citizens. Before the market liberalisation of the 1990s, "infrastructure projects were typically financed from the limited resources of the public sector, which was characterised by inadequate capacity addition and poor quality of service". The government looked to public-private partnerships to promote investment and revitalise infrastructure sector.

Body

Key challenges in infrastructure financing

- In the 1990s, the economy grew rapidly - by 7%-9% a year - and the pressures on infrastructure increased. As a result, infrastructure came to be regarded as a major constraint in sustaining the rapid growth and in attracting investment or doing business in India.
- India has been focussing on infrastructure development across various sectors, which demand huge financial resources. However large social welfare expenditure and low tax-to- GDP ratio limits government capacity to fund them.
- Fiscal Burden: Almost half of the total investment in the infrastructure sector is done by the Government through budget allocations. But Government funds have competing demands, such as, education, health, employment generation, among others.
- Asset-Liability Mismatch of Commercial Banks: Commercial banking sector's ability to extend long-term loans to the infrastructure sector is limited.
- Need for an Efficient and Vibrant Corporate Bond Market: The corporate bond market is still a long way to go in providing adequate financing to the infrastructure sector in India.
- Insufficiency of User Charges: A large part of the infrastructure sector in India especially irrigation, water supply, urban sanitation, and state road transport is not amenable to commercialisation for various reasons. Government cannot levy user charges.
- Legal and Procedural Issues: Issues relating to land acquisition and environmental clearances add uncertainty which affects the risk appetite of

investors as well as banks. With financing in long gestation period it becomes difficult to keep continuous flow of capital.

What can be done?

- The Economic Survey 2017-18 has assessed India's infrastructure financing needs at $4.5 trillion by 2040. The Vijay Kelkar committee had put out a balanced report in 2015 on overhauling the PPP ecosystem, including governance reform, institutional redesign, and capacity-building.
- The government is planning to set up a new Development Finance Institution (DFI) essentially to fill the gap in long-term finance for infrastructure sectors. It will be used to finance both social and economic infrastructure projects identified under the National Infrastructure Pipeline (NIP).
- DFIs provide long-term credit for capital-intensive investments spread over a long period and yielding low rates of return. Soon after independence, the institutional framework for development banking began- IFCI (1948), IDBI (1964), IIBI (1972), NABARD and EXIM Bank (1982), SIDBI (1990), etc.
- Government should avoid trying to minimise risk to themselves by passing on uncertain elements in a project like the land acquisition risk to the private partner.

Government initiatives

- Under UDAY scheme the government has taken steps to improve operational and financial parameters of discoms.
- National Infrastructure Investment Fund (NIIF) with an initial corpus of Rs 40,000 crore.
- With Initiatives such as 'Housing for All' and 'Smart Cities,' the government is working on reducing the bottlenecks that impede growth in the infrastructure sector.
- The National Highways Authority of India (NHAI) launched Masala Bonds in May 2017, for raising capital for funding the infrastructure projects in India.
- Relaxation in External Commercial Borrowing (ECB) norms.
- National Infrastructure Pipeline: The National Infrastructure Pipeline is a group of social and economic infrastructure projects in India over a period of five years with a sanctioned amount of ₹102 lakh crore.

Conclusion

India is one of the fastest growing large economy in the world. Combined with aspirations of young population, India needs world class infrastructure to emerge as dominant player on global platform. For the rapid development, seamless supply of capital is the basic necessity. If the policies are made to address the bottlenecks, we are not far away from realising our potential.