

**1. The economy will get the required impetus with sustained focus on expanding physical infrastructure? Do you agree? Substantiate your views.**

**Approach**

The candidate needs to give his views regarding the sustained focus on expanding physical infrastructure and its effect on economy where the views should be well substantiated with proper facts, examples, etc.

**Introduction**

Development can be defined as improving the welfare of a society through appropriate social, political, and economic conditions. The expected outcomes are quantitative and qualitative improvements in human capital as well as physical capital such as infrastructures (utilities, transport, telecommunications, etc.) which clearly showcases the importance of expanding physical infrastructure.

**Body**

- Good quality infrastructure is the most critical physical requirement for attaining faster growth in a competitive world and also for ensuring investment in backward regions.
- This includes all-weather roads; round-the-clock availability of power at a stable voltage and frequency; water for irrigation; railways that are not overcrowded, which run on time and do not overcharge for freight; ports with low turnaround time to reduce costs of imports and exports; etc.
- Physical infrastructure development is an essential driving force for achieving rapid economic growth. Higher investment in physical infrastructure reduces transaction costs as well as other input costs, fosters trade and investment, opens up new markets, improves competitiveness, creates employment opportunities, raises productivity, and stimulates economic activities, which contributes to economic growth.
- Greater access, especially for the deprived population, to transport, telecommunications, energy, electricity, water and sanitation, education and health services are needed to bring inclusive growth and development.
- All these facilities play both direct and indirect role in the development process by increasing the factor productivity of land, labour, and capital in the production process, which promotes economic growth. Lack of infrastructure continues to be a major obstacle to achieve growth and development. Recently, the Indian government estimated that there is a need for nearly \$4.5 trillion for reducing physical infrastructure deficit in the country.
- Continuous supply of good quality electrical power from the grid is critical for industries, but the situation in this regard is very unsatisfactory. Large-scale units can deal with this problem by setting up captive power plants, but this is not an economical option for small and medium units.

- Manufacturing also entails movement of large volumes of goods in order to compete in a globalized context and manufacturers need transport infrastructure which can ensure speedy and reliable movement.
- Deficiencies in the road infrastructure must be addressed urgently to increase the competitiveness of Indian manufacturing. Much the same is true of ports where insufficient port capacity and inadequate navigation aid facilities. Without substantial improvement in all these aspects of the transport infrastructure, growth in manufacturing cannot be sustained.
- The COVID-19 crisis has just reinforced the idea of the failing infrastructure in India. To add to this, almost half the country is exposed to severe climate-induced disasters. India desperately needs to buckle up its infrastructure, and while it does so, it can give it a green boost.
- The Indian Railway Finance Corporation Ltd (IRFC) recently established a Green Bond Framework for fundraising, for financing the Dedicated Freight Corridor project and electrification of the railways. India can look into establishing an agency for green financing, to fund the green infrastructure projects of the country to make development more environment friendly.

But at the same time, it is important to consider other investments that would also provide short-term stimulus. To be sure, spending money on pretty much anything will spur growth in a recession if it is debt-financed.

- It has been an article of faith for decades that traditional physical infrastructure—concrete and steel—boosts long-term growth, but evidence suggests that the growth benefits are limited when compared to other areas, especially 21st century digital infrastructure.
- In contrast, investments in digital infrastructure can generate greater overall economic returns. These include both dedicated digital infrastructure (infrastructure that is innately digital, such as broadband, 5G, cloud computing centres) and hybrid infrastructure (adding digital components to traditional infrastructure, such as smart meters, smart grid, and smart cities).
- Further, India's dismal performance in social indicators shows urgent need to invest more in social infrastructure rather than only physical infrastructure.
- This does not imply that physical infrastructure should be ignored. There are potential projects that can have big payoffs, but a policy makers should avoid the notion that massive investment in infrastructure will pay long-term economic dividends. For example, reviving the nationwide smart cities program to help cities and towns use digital technologies to improve operations and improve quality of life can help.

### **Conclusion**

India's goal of becoming a USD 5 trillion economy rests on the completion of critical infrastructure under the National Infrastructure Pipeline. Given the sudden shock to the economy and the resultant recessionary pressures, there is a need for strong re-prioritization of resources towards majors sectors with emphasis on physical infrastructure sector.

**2. What are the intended benefits of graded water tariff? Examine.**

**Approach**

Students are expected to write about graded water tariff and also examine the intended benefits of graded water tariff.

**Introduction**

As per the UN's Dublin Principle (1992), water is an economic good and hence should reflect its scarcity value. Fortunately, this has been recognised by successive National Water Policies. The 1987, the policy envisaged that the water rates should reflect the scarcity value of the resource and foster economy in water use. The 2002 policy envisaged that the water charges for various uses should cover at least the operation and maintenance charges of providing the service initially, and a part of capital costs subsequently.

**Body**

Graded water tariff:

- Graded water tariff is to fix an appropriate price for water on a graded basis, wherein higher consumption entails higher charges.
- The government has accepted the recommendation of the 15th Finance Commission, which has suggested fixing a graded water tariff to reform the water sector.

Per capita water availability has been declining over the years, and it has now touched the scarcity benchmark of 1,000 cubic meter annually. In such situation we need to study importance of graded water tariff and its intended benefits such as:

- According to the 15<sup>th</sup> finance commission, fixing water tariff is necessary because "inappropriate water pricing" is one of the major causes of over-exploitation of water in the domestic sector. Graded water tariffing can work on controlling over exploitation.
- It will enhance the revenue collection. Tariff do not get revised on a periodic basis, resulting in a large gap between the cost of supply of water and the revenue collected. Thus it will create revenue for local bodies and state governments from heavy water usage industries which can be used to subsidise water vulnerable section of society.
- Help in increasing the water use efficiency. Tariff of water will reflect its efficient use and reward its conservation. Graded water tariff will roll out equitable access of water for all and its fair pricing for drinking and other uses will be undertaken by a statutory regulatory authority. It will refrain water determined directly on a volumetric basis. It will be beneficial if Water charges be determined on volumetric basis after taking into consideration equity and efficiency.

- With graded water tariff there will be establishment of water regulator. The water regulator can be made a statutory body and be given a mandate to regulate various water uses and their fair pricing.
- The irrigation sector, which accounts for 90 per cent of the groundwater consumed, which was exempted earlier from levy of Ground Water Conservation Fee (GWCF) can be taken under fold.
- Through graded water tariffing, it is expected to discourage setting up of new industries in overexploited and critical areas and to deter large scale groundwater extraction by industries in these areas.

However, moving towards an elaborate water tariffing is not that easy. There are few challenges involved in it:

- To make a case for water tariffing at a time when the most vulnerable to water shortage are already reeling under severe economic hardship.
- To introduce graded water tariff in the entrenched political economy in different parts of India. Severe water crisis in some parts of the country are in stark contrast to flourishing fields in some other parts.
- The public procurement policies also promote cultivation of water-intensive crops, sometimes in those very states where the usage is most inefficient.
- The most important challenge is the inherent design problems associated with graded water pricing. This is because the government does not exercise control over the sources of water as it does over other natural resources.

Wayforward:

- The government should make people realise that without a price on water usage, it is they who will suffer the worst consequences of a drought.
- Groundwater has to be priced through proxies electricity or diesel used by farmers to pump the water. The strategy for pricing should be such that the cost of migration from one method of irrigation to another or from electricity to diesel offsets the difference in cost between the two.
- It is also important to target irrigation water for pricing purposes because it alone comprises more than 78% of the total water usage in India. Also, irrigation consumption is an area where the scope for increase in efficiency is very high and provide sustainable control over water guzzling crops.

### **Conclusion**

Graded water tariffing is a complex subject and its imposition has huge political overtones. The determination of water-use charges has to be rational, consultative and transparent. And, the role of the statutory water regulator should be recognised.

**3. What is a Development Finance Institution (DFI)? Discuss. What are its key objectives?**

**Approach-** Question is straight forward. Candidate is required to define development finance institution and then discuss its importance by giving examples of such institutions.

**Introduction**

The development finance institutions or development finance companies are organizations owned by the government or charitable institution to provide funds for low-capital projects or where their borrowers are unable to get it from commercial lenders.

**Body**

What is Development Finance Institution?

- These are specialized institutions set up primarily to provide development/ Project finance especially in developing countries.
- These DFIs are usually majority-owned by national governments.
- The source of capital of these banks is national or international development funds.
- This ensures their creditworthiness and their ability to provide project finance in a very competitive rate.

How is it different from commercial banks?

- It strikes a balance between commercial operational norms as followed by commercial banks on the one hand, and developmental responsibilities on the other.
- DFIs are not just plain lenders like commercial banks but they act as companions in the development of significant sectors of the economy.

Objectives of Development Finance Institutions

- The prime objective of DFI is the economic development of the country
- These banks provide financial as well as the technical support to various sectors
- DFIs do not accept deposits from people
- They raise funds by borrowing funds from governments and by selling their bonds to the general public
- It also provides a guarantee to banks on behalf of companies and subscriptions to shares, debentures, etc.
- Underwriting enables firms to raise funds from the public. Underwriting a financial institution guarantees to purchase a certain percentage of shares of a company that is issuing IPO if it is not subscribed by the Public.
- They also provide technical assistance like Project Report, Viability study, and consultancy services.

Some important DFI's (sector specific)

### **Industry**

- IFCI – 1<sup>st</sup> DFI in India. Industrial Corporation of India was established in 1948.
- ICICI – Industrial Credit and Investment Corporation of India Limited established in 1955 by an initiative of the World Bank.
- It established its subsidiary company ICICI Bank limited in 1994.
- In 2002, ICICI limited was merged into ICICI Bank Limited making it the first universal bank of the country.

Universal Bank – Any Financial institution performing the function of Commercial Bank + DFI

- It was established in the private sector and is still the Only DFI in the private sector.

IDBI – Industrial Development Bank of India was set up in 1964 under RBI and was granted autonomy in 1976

- It is responsible for ensuring adequate flow of credit to various sectors
- It was converted into a Universal Bank in 2003

IRCI – Industrial Reconstruction Corporation of India was set up in 1971.

- It was set up to revive weak units and provide financial & technical assistance.

SIDBI – Small Industries development bank of India was established in 1989.

- Was established as a subsidiary of IDBI
- It was granted autonomy in 1998

### **Foreign Trade**

- EXIM Bank – Export-Import Bank was established in January 1982 and is the apex institution in the area of foreign trade investment.
- Provides technical assistance and loan to exporters

### **Agriculture Sector**

NABARD – National Bank for agriculture and rural development was established in July 1982. It was established on the recommendation of the Shivraman Committee It is the apex institution in the area of agriculture and rural sectors It functions as a refinancing institution

### **Housing**

NHB- National Housing Bank was established in 1988. It is the apex institution in Housing Finance

### **Conclusion**

India needs DFI's to boost economic growth which would increase capital flows and energize capital markets. To improve long term finances, provide credit enhancement for infrastructure and housing projects. As India does not have a development bank, DFI would fulfil the need for us to have an institutional mechanism.

**4. Inclusive growth is the growth that has a high elasticity of poverty reduction. Elucidate.**

**Approach**

Since question is asking you to Elucidate it means you have to explain in detail/to make clear. You have to bring out the connection more clearly by citing evidence and examples.

**Introduction**

The concept of inclusive growth involves ensuring that fruits of growth and development reach the poor and marginalized sections as well by focussing on equitable growth for all sections of society. Inclusiveness is a multi-dimensional concept. Inequalities that include, social exclusion, discrimination, restrictions on migration, constraints on human development, lack of access to finance and insurance, corruption – are sources of inequality and limit the prospect for economic advancement among certain segments of the population, thereby perpetuating poverty.

**Body**

**INCLUSIVE GROWTH IS THE GROWTH THAT HAS A HIGH ELASTICITY OF POVERTY REDUCTION**

- Inclusive growth requires full respect for human rights. Inclusive growth generates decent jobs, gives opportunities for all segments of society, especially the most disadvantaged, and distributes the gains from prosperity more equally.
- The first priority of inclusive growth is to create opportunities for good and decent jobs and secure livelihoods for all including poor. This will make growth inclusive and ensure that it reduces poverty and inequality.
- A development strategy anchored in inclusive growth will have two mutually reinforcing strategic focuses. First, high, sustainable growth will create and expand economic opportunities for poor. Second, broader access to these opportunities will ensure that even the poor members of society can participate in and benefit from growth.
- It involves proper attention and planning for growth that reach the impoverished who remain excluded by circumstance, poor governance, and other market-resistant obstacles.

- Achieving inclusive growth in developing countries includes investment in infrastructure to achieve high sustainable economic progress, connect the poor to markets, and increase their access to basic productive assets.
- Provide the opportunity for poor to improve their standards of living, thereby contributing to economic growth, poverty reduction, and the mitigation of extreme inequalities.
- It emphasizes gender equality and the empowerment of women majority of whom are poor as fundamental elements and is aimed at providing these women with better access to education and other economic resources, such as credit.

### Conclusion

Economic growth is critical for poverty eradication. Yet, an expanding economy does not mean that everyone benefits equally. Economic growth has to be inclusive to ensure the wellbeing of the entire population. Two of the Millennium Development Goal Achievement Fund encouraged practices related with inclusive growth, especially providing opportunities for the most vulnerable: youth, employment and migration and private sector and development. Some programmes on culture and development also tried to boost the economic potential of cultural industries to create livelihoods. Lessons learned from these programmes have been translated into a broader perspective on inclusive growth as a means of poverty reduction.



**5. What are the key elements of inclusive and equitable growth? Discuss. What are the challenges of inclusive economic growth in India? Examine.**

**Approach:**

As the question is very straight forward in its approach, students are expected to briefly explain the inclusive and equitable growth in India in Introduction also proper explanation of the points is needed, Also in the second part of the answer mention challenges as well with proper explanation .

**Introduction:**

Inclusive growth means economic growth that creates employment opportunities and helps in reducing poverty. It means having access to essential services in health and education by the poor. It includes providing equality of opportunity, empowering people through education and skill development. The concept of inclusive growth is based on the recognition that economic growth must be increasingly 'pro-poor'. The concept represents recent thinking on development, and supplants the ideas of 'trickle-down development' advocated in the 1950s and 1960s. The concept of equitable growth entails the inclusiveness with equal proportion of the growth percolation among the population. It also encompasses a growth process that is environment friendly, aims for good governance and helps in creation of a gender sensitive society.

**Body:**

**Key Elements of inclusive and equitable growth:**

**Economic Growth-**

- India is among the fastest-growing major economies in the world. However, currently Indian economy is facing slowdown due to both cyclic and structural challenges. Economic growth is the main element of inclusive and equitable growth because with out growth trickle down is not possible at all.

**Financial Inclusion-**

- Financial Inclusion is the process of ensuring access to financial services to vulnerable groups at affordable costs. Financial inclusion is necessary for inclusive growth as it leads to the culture of saving, which initiates a virtuous cycle of economic development.

**Technological Advancement-**

- It is an important aspect of inclusive and equitable growth in terms of decreasing the growth divide between Rich and poor and between government and the people, Initiatives in this regard such as Digital India mission, use of JAM trinity in delivery of services has been quite effective in bringing transparency and accountability in governance also with industrial revolution 4.0 new technological advancements can be revolutionary in bringing governance very close to people . Technology can help combat challenges in Agriculture by making value chain more efficient and

competitive also new innovative digital technologies can be used by increasing accessibility and adaptability of learning. Technology can also bring a sea-change in sectors like Health and manufacturing through changes in the production process and remote health services.

Social development and environment protection-

- Protection of the marginalised sections like women, tribal groups, minorities and other weaker sections is also an important aspect of inclusive and equitable growth it helps in bringing population towards the mainstream economy and increase their accessibility in growth process and ease of living. Economic growth through reckless use of resources and at the cost of environment cannot be inclusive it must be sustainable as well.

Skill development and employment opportunities-

- Harnessing the demographic dividend and growth for all that is the participation of people in the growth process will depend upon the availability of jobs and development of skills. India is facing a dual challenge of providing enough employment opportunities and enhancing skill level of the employable youth.

### **Challenges of inclusive growth:**

Poverty-

- As per multi dimensionality index India lifted 271 million people between 2005-06 and 2015-16 out of poverty despite these massive gains still 22% of the population lives below poverty line.

Unemployment-

- As per Periodic labour force Survey total unemployment rate in India stands at 6.1% with the impact of COVID pandemic and the measures taken to curb it like complete lockdown unemployment rate further shifted towards the upperside thus creating more severe challenge of reaping the benefits of demographic dividend and inclusive growth.

Agricultural issues-

- Around 44% of the population depends on the agriculture with low income levels its contribution towards GDP stands at 16.5%. Almost 60% of agriculture is rainfall dependent thus making it more vulnerable to natural climatic extremities.

Issues in social development-

- Significant regional, social and gender disparities, Low level and slow growth in public expenditure particularly in health and education, The poor quality delivery system, Social indicators are much lower for OBC, SC, ST, and Muslims, Malnutrition among the children – India still ranks at 102 in the Global Hunger index.

Maintaining rapid growth while making growth more inclusive-

- The growing disparities between urban and rural areas, prosperous and lagging states, skilled and lowskilled workers. New challenges brought by COVID 19 pandemic like increased fiscal deficit,unemployment less

production and consumption has further aggravated the challenges to increase growth levels in a sustainable manner.

Improving the delivery of core public services-

- The incomes rise, citizens are demanding better delivery of core public services such as water and power supply, education, policing, sanitation, roads and public health. As physical access to services improves, issues of quality have become more central. There are four avenues for reform: internal reform of public sector agencies, producing regular and reliable information for citizens, strengthening local Governments and decentralizing responsibilities; and expanding the role of non-state providers. It however cautions that planned reform alone cannot bring about the desired changes- ultimately implementation is everything.

Regional disparities-

- Factors like caste, inequality, availability of resources, corruption contributes to the regional disparities where some specific groups hold more privileges than others. This creates a big challenge in bringing inclusiveness in growth pattern in India.

### **Conclusion:**

The post reform period witnessed increase in disparities across regions and social groups and between rural and urban areas. There is a need to have a broad based and inclusive growth to benefit all sections of the society. The challenges in most important elements of inclusive growth are agriculture, poverty and employment, social sector and regional. There are strong social and economic reasons for achieving broader and inclusive growth. To inclusive growth is a wider connotation encompassing social, economic and political factors. Through innovative partnerships with an international organization, civil societies, and private companies, inclusive and equitable growth can be targeted. Inclusive growth will help in the empowerment of vulnerable and marginalized populations, improve livelihoods, and augment skill-building for women. New India is the India of aspirations, Inclusiveness in the growth process is must for the prosperity of all.

**6. Can inclusive growth be ensured without a sustained and high growth rate?  
Critically comment.**

**Approach**

Candidate needs to comment upon the argument that inclusive growth can be ensured without a sustained and high growth rate and also give points counter to the discussion in question through proper substantiation in terms of facts, examples, etc.

**Introduction**

Inclusive growth is the equitable allocation of resources with an aim to ensure the development of every section of the society. It includes the inclusion via poverty reduction, agriculture development, and social sector development including education, health, environmental sustainability etc. where many debate its relation with high and sustained growth rate of economy for overall prosperity.

**Body**

Inclusive growth results in lower incidence of poverty, broad-based and significant improvement in health outcomes, universal access for children to school, increased access to higher education and improved standards of education, including skill development. It is also reflected in better opportunities for both wage employment and livelihood, and an improvement in the provision of basic amenities like water, electricity, roads, sanitation, and housing.

High economic growth has raised living standards around the world and is a necessary criteria to overcome the burden of poverty and inequality and move towards the goals of inclusive growth.

- High pace of growth is important, but how growth is generated is critical for growth sustainability and for accelerating employment creation and poverty reduction. For example, China grew in double digits for sustained period of time to bring majority of its population out of poverty.
- Rapid pace of growth and employment can be achieved through extensive growth, which requires expansion of capacity, but for this type of growth to be sustainable and for employment to be productive, there must be periods when growth is intensive and accompanied by productivity improvements and innovation.
- For growth to be sustainable in the long term, it should be broad-based across sectors. Issues of structural transformation for economic diversification therefore take front stage. However, some countries may be an exception and continue to specialize as they develop due to their specific conditions (e.g., small states).

- It should also be inclusive of the large part of the country's labour force, where inclusiveness refers to equality of opportunity in terms of access to markets, resources, and unbiased regulatory environment for businesses and individuals.
- Inclusive growth should focus on productive employment rather than income redistribution. Hence, the focus is not only on employment growth, but also on productivity growth.
- Inclusive growth should not be defined in terms of specific targets such as employment generation or income distribution. These are potential outcomes, not specific goals.

But modern economies have lost sight of the fact that the standard metric of economic growth, gross domestic product (GDP), merely measures the size of a nation's economy and doesn't reflect a nation's welfare. This kind of focus on singular factor to measure economic growth leads to many issues, some of which are discussed below –

- The debate between growth and equity and redistribution is one of the oldest in economic development. The common citizens of any country care more about the real impact of growth in terms of improvement in their standard of living, provision of basic facilities such as electricity, drinking water, healthcare systems etc.
- Focus on sustained and high growth rate invariably leads to focusing exclusively on GDP and economic gain to measure development which ignores the negative effects of economic growth on society, such as climate change and income inequality.
- Ineffective trickle down of benefits earned from high economic growth. There is increasing disconnect between economic growth and social development. As per popular development economist Jean Dreze, India's high economic growth has failed to bring about any significant improvement in the quality of life of the common people.
- Despite the high growth rates in India, almost half of the children younger than 5 years are stunted due to improper nutrition and sanitation. As of 2018, more than 163 million Indians do not have access to safe drinking water. As per the Tendulkar methodology, 22% of Indians live on less than \$1.25 a day.
- For ensuring inclusive growth, economic growth of lower strata should be faster than the affluent class. However, India has experienced one of the highest rates of growth of inequality. As per OXFAM survey India's richest 1% holds four times of the wealth held by 70% of bottom population which is around 1 billion.
- Certainly focus on only high growth fails to account pie of growth of shared by different sections of society which makes it ineffective indication of national progress. Though, it is necessary to generate wealth in the first place to redistribute it, however overemphasis on high growth rate may create huge inequality and disparity.

- Sustained and high economic growth cannot differentiate between an unequal and an egalitarian society if they have similar economic sizes. Thus, rising inequality is resulting in a rise in societal discontentment and increased polarization.

India need alternative metrics to complement GDP in order to get a more comprehensive view of development and ensure informed policy making that doesn't exclusively prioritize economic growth. E.g. - Bhutan's Gross National Happiness, and UNDP's Human Development Index (HDI). Further, India is also beginning to focus on the ease of living of its citizens which is evident from –

- Rural development with Agriculture centric approach. E.g. Rain-fed area development program, integrated rural development programme.
- Electrification to every house under Saubhagya Yojana.
- Targets of reducing infant and under-5 mortality rate under swachh bharat mission than just building toilets.
- Emphasis on Last mile reach: for instance, the target under 100% immunisation target under Mission indradhanush and follow up under Intensified Indradhanush scheme.
- Preventive approach than curative by addressing the core issues. E.g. emphasis on primary health care under Ayushman Bharat by creating health and wellness centres.
- Gender inclusion: At present, the element of gender equality as a part of inclusive development is more focussed. E.g. Gender budgeting, women empowering schemes like Kanyashree Prakalpa of West-Bengal etc.,

Along with these fundamental measures for social sector, the focus is also on improving the business environment in the nation through efforts like improving ease of doing business ranking as well as schemes like Make in India as well as Production Linked Incentive's (PLI's) recently announced in budget.

### **Conclusion**

As a practice of good governance, it has been always incorporated in India to – 'wiping every tear from every eyes' to the latest with the objective of 'Sabka sath sabka vikas' which encapsulates the core philosophy of inclusive growth to overcome the tag of a 1% economy where the end goal is to be more just and equitable society that is economically thriving and offering citizens a meaningful way of life.

## 7. Why is it important to have a stable tax regime? Analyse.

### Approach

Students are expected to write about stable tax regime and analyse the importance to have a stable tax regime.

### Introduction

Paying taxes is a mark of civilisation. Stability is one of the three fundamentals for policymakers to consider when trying to design and implement a good tax system, alongside simplicity and certainty. For individuals and businesses alike, stable tax regime is fundamental to effective planning and efficient compliance.

### Body

One of the likely reasons for India to suffer a relatively poor reputation in larger global community of investors was when it comes to the stability of its tax regime. By not tinkering with tax rates in this budget 2021 whether corporate tax, personal income tax, peak rates of Customs duty or GST the Government has sent out a strong signal to the that India is indeed a stable tax regime where they should be looking to invest.

Importance of stable tax regime:

- Create Ease of doing business: Stable and moderate tax regime will give thrust and a clear road map to ease of doing business. The Economic Survey suggested that the measures that need to be taken soon should include a clear, transparent, and stable tax and regulatory environment.
- Refrain from retrospective taxation: While governments often use a retrospective amendment to taxation laws to “clarify” existing laws, it ends up hurting companies that had knowingly or unknowingly interpreted the tax rules differently. For example Vodafone case. With stability in tax regime government provide simple, predictable and transparent tax regime that stands beneficial for companies and well nurture the economy.
- Tax terrorism to tax transparency: Domestic tax laws allow the authorities to issue ‘demand notices’ even to people who have paid all their taxes for the year and have dutifully filed their returns. But with stable tax regime less fluctuations in tax rules set efficient tax administration and increase the tax transparency.
- Bring about certainty: Common procedures for registration of taxpayers, refund of taxes, uniform formats of tax return, common tax base, common system of classification of tax slabs will lend greater certainty to taxation system.
- Increase in disposable income: With stability in tax regime disposable income increases, households have more money to either save or spend, which naturally leads to a growth in consumption. Consumer spending is one of the

most important determinants of demand; it creates the demand that keeps companies profitable and hiring new workers.

- Increase tax Compliance and broaden tax base: Certainty with stable tax regime will enhance environment for compliance as all returns are to be filed on stable rate. Compliance increase will also help in broaden tax base. The improved compliance and increased tax base have resulted in a rise in the tax to GDP ratio. The same has reached 12%, which is the highest in the recent past (the ratio was 10.1% in 2013-14).
- Helps in streamline taxation: Through stability in tax regime there is harmonisation of laws, procedures and rates of tax between Centre and States and across States. It is expected to reduce cost of taxation and inflation in the economy.
- Improved competitiveness: Reduction in transaction costs of doing business would eventually lead to an improved competitiveness for the trade and industry. World Bank believes that the implementation of the stable tax regime with Goods and Service Tax (GST), is the most crucial reform that could improve competitiveness of India's manufacturing sector.
- Reducing pendency: Stability in tax regime especially when coupled with the increasing digitalisation of tax compliance creates mechanisms for early dispute resolution reduce pending tax litigation in Tax Appellate Tribunal should serve to improve investor sentiment.
- Stable and predictability: A stable tax regime is welcome as we believe that a predictable policy environment is critical for sustained growth and to attract more investments into the country.

### **Conclusion**

Overall, India's long-running objective of achieving stability in tax regime and minimising disputes, appears to have been achieved in this Budget. Taxes for the upcoming Budgets should focus on mainly clarity in law, simplification of procedures and reduction of litigation, facilitating business transitions apart from exemptions and deduction will in turn promote ease of doing business in the country. It is hoped that these measures pave the way for a thriving national economy in the near future.



**8. Do you think the policy of liberalization has attained its full potential in India? Critically examine.**

**Approach-** Question is analytical in nature. Student can give a brief evolution of liberalization in the beginning and then analyse the impact policy made on Indian economy and society. Future path of economy can be given in later half of the answer.

**Introduction**

“No power on earth can stop an idea whose time has come,” said then finance minister Manmohan Singh quoting Victor Hugo while presenting the Union Budget on 24 July 1991. And with these words started the long and painful process of economic liberalisation in India.

**Body**

The liberalisation was aimed at ending the licence-permit raj by decreasing the government intervention in the business, thereby pushing economic growth through reforms. The policy opened up the country to global economy. It discouraged public sector monopoly and paved the way for competition in the market.

- In 1991 India embarked on major reforms to liberalize its economy after three decades of socialism and a fourth of creeping liberalization.
- Twenty-five years later, the outcome has been an outstanding economic success. India has gone from being a poor, slow-growing country to the fastest-growing major economy in the world.
- The World Economic Outlook for 2016 says that the United States and India are the two pillars of strength today that are helping hold up a sagging world economy.
- Yet those successes have been accompanied by significant failures and weaknesses in policies and institutions. The past 29 years of liberalization are largely a story of private-sector success and government failure and of successful economic reform tarnished by institutional erosion.
- The quality of government services remains abysmal, and social indicators have improved much too slowly. The provision of public goods — police, judiciary, general administration, basic health and education, and basic infrastructure has seriously lagged improvements in economic performance.
- India's economic reforms have been highly successful in moving the country from low-income to middle-income status, despite little improvement in its institutions and quality of public goods. To sustain rapid growth and to become a high-income country, India will need major reforms to deepen liberalization and build high-quality institutions.
- India is about to reap a demographic dividend that will give it a big edge over rivals. The number of working-age people between 15 and 60 is expected to rise by 280 million between 2013 and 2050.

### India and liberalization

- India's working-age population has started rising, yet participation in the workforce has actually fallen in recent years, especially for females. It is partly because, as families rise from low-income to lower-middle-income status, they pull their women out of manual work as a mark of social superiority.
- Economic liberalization has benefited Dalits, the lowest of the Hindu castes, once condemned to the dirtiest work, such as cleaning latrines, cremating the dead, and handling dead animals and their hides. A seminal survey in two districts of Uttar Pradesh revealed striking improvements in the living standards of Dalits in the past two decades.
- In the two decades since 1991, India's literacy rate has shot up by a record 21.8 percentage points, to 74 percent.
- Leftist critics accuse India of going down the path of neoliberalism. The actual process could better be called neo-illiberalism. Although many old controls and licenses have indeed been abolished over the past 25 years, many new controls and bureaucratic hurdles have appeared, mostly in such areas as the environment, forests, tribal rights, and land and in new areas like retail, telecom, and Internet-related activities.
- Markets cannot function without good governance. With almost no exceptions, the delivery of government services in India is pathetic, from the police and judiciary to education and health.
- Justice is supposed to be blind. In India, it is also lame. India holds the world record for legal case backlogs (31.5 million), which will take 320 years to clear, according to Andhra Pradesh high court judge V. V. Rao. India's Law Commission has recommended the appointment of 50 judges per million population. The current sanctioned judicial strength is just 17 per million, and unfilled vacancies are as high as 23 percent in the lower courts.
- Many infrastructure areas earlier reserved for the government were opened to private-sector participation, often in public-private partnerships, and many of them were bedeviled by crony capitalism.
- The quality of the delivery of government services remains poor. The big improvements in private-sector competitiveness are not even remotely replicated in government service competitiveness. India's social indicators remain dismal.

### Conclusion

Liberalization remains unfinished agenda in Indian context. Though we have successfully crossed many socio-economic barriers, we still lack in building robust social infrastructure to be able to deliver fruits of liberalization to our population. India lags far behind in social indicators and many policies hurt free flow of capital and goods. Road of freedom is only half travelled and lot needs to be done to be able to realize our full potential.

**9. Can India emulate the Chinese model of export led growth strategy? What are the challenges on this front? Discuss.**

**Approach:**

Above question has two parts first part is about suitability of export led growth strategy for India and the second one is challenges, students are expected to give a brief about what export led growth strategy means in introduction and then explain its suitability for India and challenges of implementation. Arrive at a balanced logical and forward looking conclusion at the end.

**Introduction:**

Export led growth is where a significant part of the expansion of real GDP, jobs and per capita incomes flows from the successful exporting of goods and services from one country to another. In recent years a number of countries have experienced rapid growth across a number of export industries which has helped to fuel their long-run expansion. These nations include China, Ireland, South Korea, Singapore, Hong Kong, Vietnam, Ethiopia and other emerging countries. The opposite of an export led growth is import substitution where countries strive to become self sufficient by developing their own industries.

**Body:**

China's strategy for growth-

- China's export- led growth is rooted in a double transition of structural change and demographic transition. China began to adopt the ELG model in the early 1980s with features like trade liberalization, Reindustrialization, focus on processing trade all led to a successful trade strategy and helped China to achieve a sustained growth for over a decade.
- China's emergence as a low cost manufacturing hub and leading merchandise exporter was enabled by a relatively favourable international economic factors, major consuming markets like USA, the EU and Japan were relatively open and expanding .
- China has become increasingly integrated into the global supply chains of multinational conglomerates like Apple and Microsoft. The supply chains consist of production facilities spread across number of countries, India's participation in these supply chains is weak.

Can India emulate the Chinese model-

- The idea of turning the Indian economy into an export-led economy is not new. This idea is visible in the objectives of Make in India program and Economic Survey has proposed the creation of a Shenzhen-style Autonomous Employment Zones (China), which would be characterized by a highly entrepreneur-friendly regime with respect to land, labour, enforcing contracting and international trade. China was the last country to lift itself out of poverty by becoming the factory to the world, but economic experts

doubt that global demand in the post-covid era will be enough to accommodate another manufacturing giant to arise.

Due to the different geo-economic scenario today, it is contemplated that the export-led growth may not be viable for India because of the following reasons-

- Many global economists are of the opinions that today's world is unlikely to sustain export-led growth, due to the problem of : depopulation, declining productivity, high debt, and deglobalization. Demand in most parts of the developed world will not grow too fast, as they are ageing (Japan, northern Europe), and demand in the developing world will also decline in the near future. As the US is turning protectionist and the EU has in place many trade barriers, this will further reduce demand for developing countries' exports.
- The developed countries are increasingly turning to high tech to produce cheap consumer goods, which require fewer workers and are therefore cost-effective. Thus, manufactured goods in developed countries are slowly replacing the cheap imports from developing countries.
- The structural reforms like labour reforms would have had a significant impact in 1991, but are unlikely to provide the same growth boost today. This is because businesses have found other ways to deal with inflexible labour laws, as technology seems to have replaced all other factors of production as the main driver of growth.
- Most of the goods in India are produced in the medium and small enterprises and have poor quality. This is because the labour involved in the production is lacking adequate training in skills, education, and is less disciplined than in India's competitor countries.
- A large part of India's growth story in the past decade has been due to a rise in India's exports from 9.3% of gross domestic product (GDP) in 2000-01 to 16.8% of GDP in 2013-14. But, with export growth turning negative in recent months, there are signs that the export push is running out of steam.
- COVID 19 pandemic has forced countries to change strategies for achieving high growth India has been in the forefront of steering economy from what experts called a technical recession, with the disruption of global supply chains and rise of protectionism, Atmanirbhar Bharat is the new strategy in place to make India self reliant in the production process and to increase domestic demand.

### **Conclusion:**

The idea of the export-led economy has been very successful for many East-Asian countries (also called East-Asian Miracle). In the 1960s and 70s, these countries transformed their economies rapidly from developing countries to become middle-income countries through high export. However, the viability of a new export-based economy, that India aspires to be, depends on policy restructuring, reaping demographic dividend and leveraging its domestic market.

**10. Do you think disinvestment of public sector units can bring in efficiency and promote competition? Critically comment.**

**Approach**

Define disinvestment of PSUs and comment on whether disinvestment of PSUs can bring in efficiency and competitiveness or not. We need to deliberate on both sides of the argument.

**Introduction**

Budget 2021-22, set a disinvestment target of Rs 1.75 lakh crore. As per government perspective disinvestment means sale or liquidation of assets by the government, usually Central and state public sector enterprises, projects, or other fixed assets.

**Body**

Currently public sector units (PSUs) are infested with inefficiencies and uncompetitive practices like government interference, low capacity utilisation, huge debt burden, inability to innovate, substantial time and cost overruns, slow decision making process, low work ethics, unequal playing field for private sector, etc.

**Disinvestment can bring in efficiency and competitiveness in following ways and means –**

- Encourage private participation and investment in PSUs operations.
- Minimizing debt: Debt of both PSUs and government can be reduced with disinvestment revenues.
- Attracting Investment: Funds for scaling up and up-gradation.
- Rise in capacity and profit: Hindustan Zinc saw a 100 fold in its profits and six fold rise in capacities.
- Technology adaptation: disinvestment funds can be used to adopt latest technologies.
- Accountability and Transparency: Disinvestment increases scrutiny and answerability towards corporate and retail stakeholders.
- Social sector investment: Disinvestment revenue can be used for implementing social programs in health and education sectors

**However, disinvestment has following issues –**

- Inefficient and low valuation of PSUs: Disinvestment of PSU stakes and assets at rates below its real or potential market value. E.g.: Disinvestment of IRCTC.
- Strategic concerns: Disinvestment in defence, oil exploration, nuclear facilities, etc. may cause national security issues.
- Fear of crony capitalism and monopolies.
- Rise in economic and social inequalities.

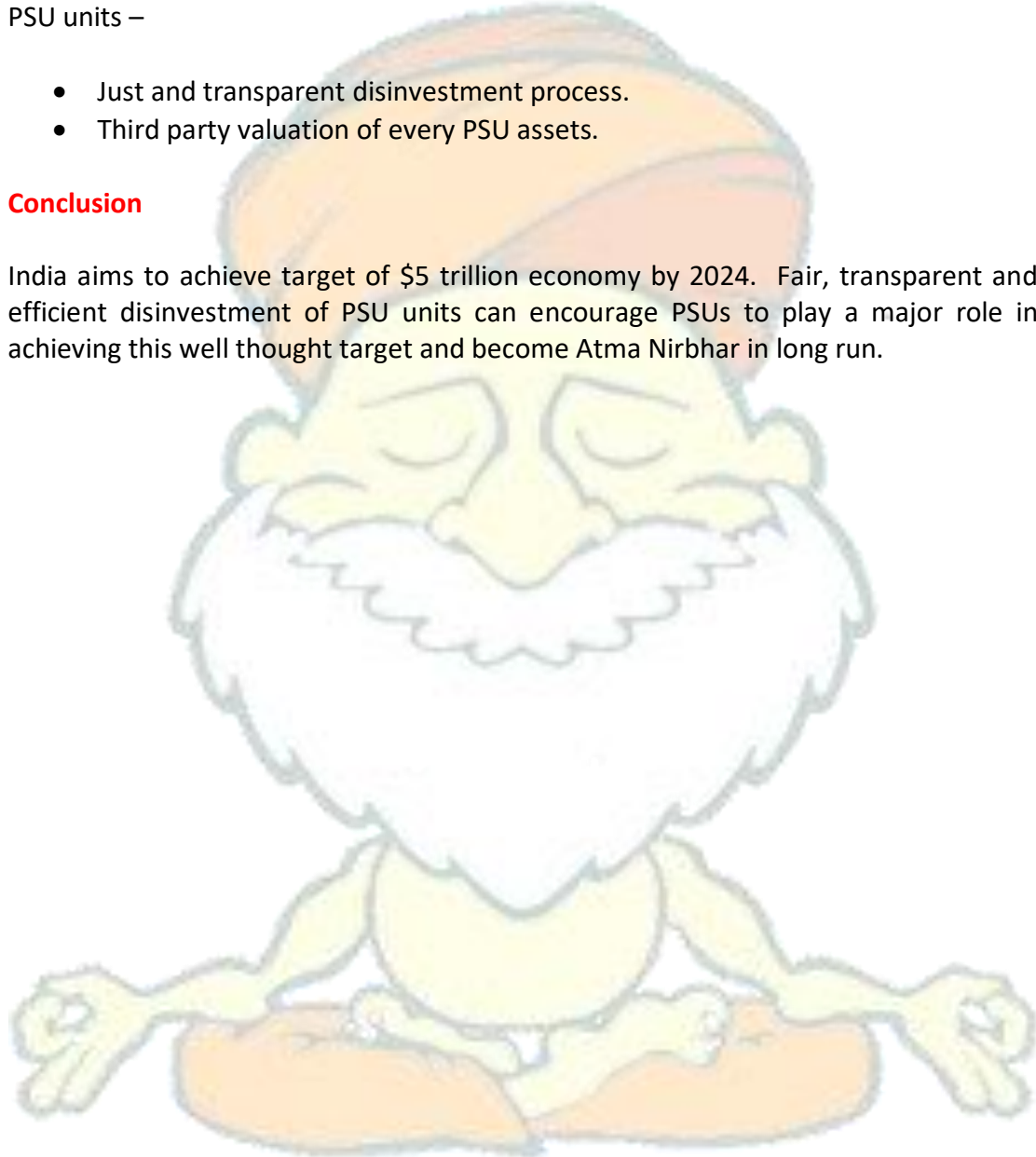
- Loss of revenue (i.e. profit and dividend) to the government.
- Encourage regressive fiscal practices: Increased dependency on disinvestment revenue is an unhealthy and a short term practice.
- Lack of assurance: Disinvestment does not always ensure efficiency and competitiveness.

Government need to take following measures to ally concerns of disinvestment of PSU units –

- Just and transparent disinvestment process.
- Third party valuation of every PSU assets.

### **Conclusion**

India aims to achieve target of \$5 trillion economy by 2024. Fair, transparent and efficient disinvestment of PSU units can encourage PSUs to play a major role in achieving this well thought target and become Atma Nirbhar in long run.



**11. What is an avalanche? How does it occur? Explain.**

**Approach**

Question is straightforward students are expected to write about the what is avalanche and explain how does it occur.

**Introduction**

In India, Himalayan region is well known for occurrence of snow avalanches particularly the Western Himalayan region snowy regions of Jammu and Kashmir, Himachal Pradesh and Uttarakhand. In the Kargil district, the Indian Army has another big adversary besides Pakistan. Over 1,000 Indian soldiers, including over 35 officers, have lost their lives in the Siachen Glacier-Saltoro Ridge region since April 1984.

**Body**

Avalanche:

- An avalanche is a mass of snow that slides rapidly down an inclined slope, such as a mountainside or the roof of a building. Avalanches are triggered by either natural forces (e.g. precipitation, wind drifting snow, rapid temperature changes) or human activity. In mountainous terrain, they are among the most serious hazards to human life and property.
- There are various kinds of avalanches: Such as rock avalanches (which consist of large segments of shattered rock).Ice avalanches (which typically occur in the vicinity of a glacier).Debris avalanches (which contain a variety of unconsolidated materials, such as loose stones and soil).

An avalanche is typically triggered when material on a slope breaks loose from its surroundings; this material then quickly collects and carries additional material down the slope. Let us study in detail how Avalanche occur:

- Steeper Slopes: An avalanche is caused by the influence of gravity. If gradual snowfalls accumulated on the slopes of the mountain then it prone to rush downs the slopes at greater speeds.
- Layering of Snow: The gradual snowfall creates layer by layer accumulation of snow that hypersensitive the snowpack. If something catastrophic events happen then these layers of snow falls down that leads to avalanche.
- Due to Snowstorm and Wind Direction: Heavy snowstorms are more likely to cause Avalanches. The 24 hours after a storm are considered to be the most critical. Wind normally blows from one side of the slope of the mountain to another side. While blowing up, it will scour snow off the surface, which can overhang a mountain.
- Due to Heavy Snowfall: Heavy snowfall is the first since it deposits snow in unstable areas and puts pressure on the snowpack. Precipitation during the summer months is the leading cause of wet snow avalanches.

- Earthquakes: It is one of the important factors that triggered the layer of accumulated snowpack because earthquakes generate seismic waves that cause the ground to vibrate.
- Movements or Vibrations Produced by Machines and Explosives::During the developmental activities, the terrain vehicles in regions with unstable layers of snow can dislodge the layers from the surface and cause them to slide down under gravity.
- Deforestation-Deforestation, clearance, or clearing for developmental activity makes the mountain region an avalanche-prone area more susceptible to deadlier avalanches.
- Human Activity: Humans have contributed to the start of many avalanches in recent years. Winter sports that require steep slopes often put pressure on the snowpack, which it cannot deal with. Combined with the heavy deforestation and soil erosion in mountain regions, it gives the snow little stability in the winter months. They can also be triggered by skiers, snowmobiles, hikers, vibrations from machinery or construction.

Mitigation steps in Avalanche prone areas:

- Accurate avalanche prediction requires an experienced avalanche forecaster who often works both in the field to gather snowpack information and in the office with sophisticated tools such as remotely accessed weather data, detailed historical weather and avalanche databases, weather models, and avalanche-forecasting models.
- Setting up Quick Response Teams (QRTs) from local administration and the NDRF, equipped with standard avalanche equipment and devices such as GPS, Radio Beacons, and shovels, etc.
- The Border Road Organization (BRO) keeps vigil for keeping the highways clear after avalanches, particularly in the Rohtang Pass and the Baralachala Pass.
- SASE which is a laboratory of the Defence Research and Development Organization (DRDO) has issued an Avalanche warning to Leh in Ladakh region.
- Construction of power lines, highways and railroads must be avoided, if done then minimum impact designs should be implemented.

### Conclusion

India's unique geo-climatic conditions and high socio-economic vulnerability to calamities are responsible for increased frequency in natural disasters. Disasters are no longer to be considered as occurrences that are to be managed through emergency response services. So, there is a need to foster a culture of prevention and identification of the key issues to be addressed especially in the development process. The path ahead for managing disasters is to bring in a people-centered development strategy with decentralised planning, implementation and monitoring and control.



**12. The impetus on infrastructure expansion in India's Northeast will reap huge economic and strategic benefits for India. Do you agree? Substantiate your views.**

**Approach:**

The question is straight forward in its approach, students are expected to write about strategic and economic benefits of infrastructure development in the North East region, also mention about the socio economic conditions of the region and substantiate your view points properly .

**Introduction:**

Regional disparities especially in socio economic development are a ubiquitous phenomenon across India. India's North Eastern region (NER) comprising the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura is a poorly developed and tribal population dominated region in India. In spite of having some similarities in life style of majority of the population and a common Mongoloid origin, sharp differences exist in the status of socioeconomic development. Infrastructural push will play an important role in bringing North East at par with the rest of the country in terms of connectivity, growth and opportunities. Inadequate infrastructure and poor connectivity are the major constraints to development in the region. Not only is the region poorly connected to the rest of India, it is also poorly connected to neighbouring countries in Southeast Asia.

**Body:**

- Infrastructure is the backbone of economy it has a higher multiplier effect playing key role in bringing investment, increased production capacity and opportunities for growth and employment. In North-East-Region, infrastructure is the most critical aspect to improve connectivity, strengthen strategic ties, enhance border security, improve trade and people to people ties with the South-East Asian Countries.
- Budgetary allocations towards infrastructural development has been increased significantly over the years towards central sector schemes such as North east special infrastructure development scheme, Ministry of DONER, North east road infrastructure development scheme etc.

**Economic benefits of infrastructure development-**

- Along with connectivity, the level of economic activity is bound to increase. Previously, even fiscal concession given to the states failed to attract significant industrial investments. The reason was high logistical costs of moving merchandise to high consumption regions. In this context, better connectivity provides a booster shot to economic activity.
- Surrounded by international borders, infrastructure development — both internal and international — could be the best choice for inclusive

development in India's Northeast. International infrastructure, which is also termed as connectivity, may help the NER to become more economically engaged with neighbouring countries.

- Building resilient infrastructure also requires development of the border in Northeast India and facilitation of border trade. The border is seen as a connector and as an economy-building asset rather than a deterrent. In recent years, India's trade with Bangladesh and Myanmar witnessed a steep rise in growth, which indirectly suggests the existence of a large trade potential. However, supply-side constraints, among others, inhibit the two-way trade across the borders with India's two neighbours. Enhancing Northeast India's existing level of trade and economic linkages between Bangladesh and Myanmar would need infrastructure and institutional support, which would facilitate growth and remove the region's economic isolation.
- The Northeastern states of India are likely to gain more from the Trilateral Highway, compared to many other Indian states. Removing the status quo, therefore, means the NER has to invest in building physical and institutional infrastructure, which in return would lead to higher production — both within and across borders — and industrialisation, which will foster innovation and enhance the economic linkages with the neighbouring countries.
- Infrastructure development could boost the tourism industry in the north east to its highest potential which will have multiplier effect on the overall economy of the region.
- Lack of infrastructure in north east region has left horticulture industry which includes bamboo, forest produce and other products in a disarray without access to markets horticulture could not bring benefits to the people of the region. Infrastructure development will play a key role in the development of horticulture by providing access to markets and new technologies.

#### **Strategic benefits of infrastructure development-**

- The India-Myanmar-Thailand Trilateral Highway will play a key role in this and help improve connectivity between India and Thailand and others in the neighbourhood. India also has plans for a global electricity grid that may initially aim to link countries such as Myanmar, Thailand, Cambodia, Laos, and Vietnam with the Indian sub-continent, as part of an evolving energy security architecture.
- In order to counter Chinese influence India is working on a slew of road and bridge projects to improve connectivity with Bangladesh, Nepal and Myanmar. These include road networks connecting Aizawl in Mizoram with Kaladan in Myanmar and Imphal in Manipur with Tamu, also in Myanmar. India is also expediting the South Asian Sub-Regional Economic Cooperation (SASEC) road connectivity programme.
- India's Act East Policy is a significant cornerstone of the Indo-Pacific strategy, adding that ASEAN is at the core of Act East Policy, Development of north east region plays a key role in realizing the benefits of act east policy.

- Development of infrastructure plays a key role in bringing ease of living for the people in the region, thus acts as an antidote to the separatist feelings and against the terrorism present there.
- Incidents like Doklam call for greater infrastructural push in terms of connectivity to allow fast movement of security forces in times of stand off like incidents. Development of Dolha sadia and Bogibeel bridge are a step towards bringing North east in the development map and allow greater flexibility in the security matrix of india.

**Conclusion:**

In order to fulfil SDG 9, infrastructure development has a strong catalytic role to play in Northeast India. policy responses need to focus on Strengthening infrastructure linkages, Facilitating trade, investment and tourism, Developing human resources and promoting sustainable development in the region is conducive for overall growth and prosperity of the region.



**13. Privatisation of railway operations is a progressive economic decision.  
Comment.**

**Approach**

Students are expected to write about the privatisation and comment on how privatisation of railways operation is progressive economic decisions.

**Introduction**

Recently, the Indian Railways initiated the process to allow private firms to operate passenger trains on its network through 151 new trains. While these trains will form a minuscule portion of the entire railway network, this marks the beginning of private sector participation in passenger train operations. The privatization of Indian railways has been recommended for many decades, by the erstwhile Planning Commission of India and now by Niti Aayog.

**Body**

Functions of railway operation department:

- Railway operation encompasses all the activities connected with the running of a railway. However, Operating department in particular has its role in producing a service called Transportation. In this activity, Operating department harnesses the efforts of all the departments of the Railways and optimizes usage of operational assets viz. track, signals fixed installations and rolling stock.
- Railways operating ratio in 2017-18 was 98.44%, worst in 10 years as per CAG. The Railways has also been unable to meet its operational cost of passenger services and other coaching services. Almost 95 per cent of the profit from freight traffic was utilised to compensate for the loss on operation of passenger and other coaching services, it said.

Privatisation of railways operations a progressive economic decision:

- Improved Quality of Services: Operational Efficiency & Passenger Experience Operations of these trains by the private entity will conform to key performance indicators like punctuality, reliability, upkeep of train, catering. Indian Railway services are marred by issues like mismanagement in the form of stinking washrooms, lack of water supply and dirty platforms. Privatisation may solve these issues, as the move would foster competition and hence lead to overall betterment in the quality of services.
- Capacity augmentation: Once the railways permit private players, there is scope for capacity augmentation. This is a very pertinent point because, in 2018-19, 8.85 crore people were on the waiting-list and railways was able to provide reservation to only 16% of the waiting list passengers.
- Improved Security: Private participation can lead to better accountability and monitoring, which can keep a check on rising accidents in railways.

- **Attractiveness:** The main objective of this move is to introduce a new train travel experience for passengers who are used to travelling by aircraft and air-conditioned buses. Cleanliness in trains, quality of food could be addressed with privatisation.
- **Improved Infrastructure:** Niti Aayog's strategy for New India @75 envisages many targets in railway infrastructure such as increasing the speed of infrastructure creation from the present 7 km/day to 19 km/day, 100% electrification of broad gauge track by 2022-23. Given this, a strong argument in favour of privatization is that it will lead to better infrastructure which in turn would lead to improved safety, reduction in travel time, etc.
- **Technology Infusion:** The privatization will also help in accommodating the latest technology in railways coaches, safety and travelling experience. Thereby, it may help Indian Railways to become a world-class network.

From some quarters there is criticism that railways are the common mode of transportation for common man and privatisation of its operations will hamper its progressive work and goodwill:

- There is criticism that the move to privatise railways will affect the job opportunities of people belonging to the economically and socially backward class.
- **Increased Fares:** Given that a private enterprise runs on profit, thus it may be assumed that the easiest way of accruing profits in Indian Railways would be to hike fares. This would render the service out of reach for lower income groups. Also, this would defeat the purpose of the Indian railways which is meant to serve the entire population of the country irrespective of the level of income.
- **Social Welfare Concerns:** As the Indian Railways plays a vital role in transportation of goods in the country, it provides a low cost of transportation of many final and intermediate goods. Thus, the privatization of the system motivated by profit making, will have an inflationary effect and thereby affect the common people.

**Way Forward**

- **Sustainable Pricing:** There is a need to revisit Indian Railways pricing model to make the passenger and freight segments sustainable. The tariffs should be competitive with the cost of road transportation.
- **Independent Regulator:** Setting up an independent regulator will be critical for creating a level playing field for private players. In this pursuit, there is a need to expedite the process of establishing the Rail Development Authority, as it is already approved by the government.

### **Conclusion**

The money which the Indian Railways will earn through revenue sharing can be utilised for improving the quality of passenger train services and railway infrastructure in poorer regions. They should also ensure that all the disputes between the private and public stakeholders are amicably resolved and excellent standards of services to passengers are maintained.

**14. What are millets? What are their nutritional benefits? Discuss. Can millet cultivation be a viable solution to agrarian and nutritional challenges? Examine.**

### Approach

Since question is asking you to Discuss, it necessitates a debate where reasoning is backed up with evidence to make a case for and against an argument and finally arriving at a conclusion.

### Introduction

Over the past few years, the healthy food revolution has given way to discover the value of traditional millets. Especially with the increasing health consciousness among people, there has been a rise in the demand of nutrient rich cereals like millets.

### Body

#### WHAT ARE MILLETS?

Millets are cereal crops and small seed grasses, which are widely used in African and Asian countries. Since ages, these small crops were used for human consumption as well as a fodder for animals. Majorly cultivated in the semiarid tropical regions of Africa and Asia, around 97 percent of world's overall millet production happens in these regions.

#### What are their nutritional benefits?

- Millets are extremely nutritious and good for health and they also need less water and can be stored for years, as they have a long shelf life. Millets make for a perfect healthy meal. They are loaded with high amount of starch and proteins, which can be beneficial, if added to the daily diet.
- These little grains are a powerhouse of nutrition, which help in improving heart health and can effectively reduce coronary blockage. It is enriched with the goodness of magnesium, which can effectively reduce blood pressure and risk of stroke and heart attacks.
- Millets are a rich source of magnesium, which help in stimulating the level of insulin, thereby increasing the efficiency of glucose receptors in the body, which further helps in maintaining a healthy balance of sugar level in the body.
- Rich in fibre, millets make for a healthy cereal, which can help in digestion and can relieve bowel issues.
- Millets are loaded with the components such as curcumin, ellagic acid, Quercetin and catechins, which further help in removing foreign agents and free radicals and balance the enzymatic reactions in the body. These can naturally detoxify the blood.

### MILLET CULTIVATION AS A VIABLE SOLUTION TO AGRARIAN CHALLENGES

- According to the report of the National Rainfed Area Authority (NRAA) even after realizing the full irrigation potential, about half of the net sown area will continue to remain rainfed. This alarms the need of shifting to the alternative of current cereal staples.
- Millets cultivation can be a solution to this problem as these can grow on shallow, low fertile soils with a pH of soil ranging from acidic 4.5 to basic soils with pH of 8.0. Millets can be a good alternative to wheat especially on acidic soils.
- Rice is very sensitive to saline soils and has poor growth and yield on a soil having salinity higher than 3dS/m. On the other hand, millets like pearl millet (*Pennisetum glaucum*) and finger millet can grow up to a soil salinity of 11–12 dS/m.
- Millets have a low water requirement both in terms of the growing period and overall water requirement during growth. The rainfall requirement of certain millets like pearl millet and proso millet (*Panicum miliaceum*) is as low as 20 cm, which is several folds lower than the rice, which requires an average rainfall of 120–140 cm.
- Most of the millets mature in 60–90 days after sowing which makes them a water saving crop. Barnyard millet (*Echinochloa frumentacea*) has the least maturation time of 45–70 days among millets, which is half to the rice maturation (120–140 days) time.
- Millets fall under the group of C4 cereals. C4 cereals take more carbon dioxide from the atmosphere and convert it to oxygen, have high efficiency of water use, require low input and hence are more environment friendly.
- Thus, millets can help to phase out climatic uncertainties, reducing atmospheric carbon dioxide, and can contribute in mitigating the climate change.

### MILLET CULTIVATION AS A VIABLE SOLUTION TO AGRARIAN CHALLENGES

- Millets secure sixth position in terms of world agricultural production of cereal grains and are still a staple food in many regions of world. These are rich source of many vital nutrients and hence, promise an additional advantage for combating nutrient deficiencies in the third world countries.
- Millets are nutritionally similar or superior to major cereal grains. The additional benefits of the millets like gluten-free proteins, high fibre content, low glycaemic index and richness in bioactive compounds made them a suitable health food.
- The mineral content in millets ranges from 1.7 to 4.3 g/100 g, which is several folds higher than the staple cereals like wheat (1.5%) and rice (0.6%).
- Thus, the incorporation of millets in the diet can help to eradicate nutritional deficiencies.

### Conclusion

Millets can easily thrive in extreme conditions like drought, and some wild varieties can even prevail in flooded areas and swampy grounds. These have low glycaemic index, abode gluten-free protein and are rich in minerals (calcium, iron, copper, magnesium, etc.), B-vitamins and antioxidants. These extraordinary traits make them nutritious and climate change compliant crops. These can not only serve as an income crop for farmers but also improve the health of the community as a whole. The inclusion of millet-based foods in international, national and state-level feeding programs will help to overcome the existing nutrient deficiencies of protein, calcium and iron in developing countries.





**15. Examine the benefits of drip irrigation. Which sort of crops are suitable to be irrigated by this technique? Discuss.**

**Approach:**

Question is very straight forward and simple in its approach students are expected to write about the benefits of drip irrigation in a detailed manner and in the second part mention about which crops are suitable for drip irrigation, then conclude by mentioning prospects and future importance of drip irrigation.

**Introduction:**

Drip irrigation is sometimes called trickle irrigation and involves dripping water onto the soil at very low rates (2-20 litres/hour) from a system of small diameter plastic pipes fitted with outlets called emitters or drippers. Water is applied close to plants so that only part of the soil in which the roots grow is wetted, unlike surface and sprinkler irrigation, which involves wetting the whole soil profile. With drip irrigation water, applications are more frequent (usually every 1-3 days) than with other methods and this provides a very favourable high moisture level in the soil in which plants can flourish. The main idea behind drip irrigation system is to assist in the growth of agricultural crops and plants by maintaining with the minimum amount of water required, suppressing weed growth in grain fields, preventing soil consolidation etc.

**Body:**

**Benefits of drip irrigation-**

- Reduced Water Usage – By directly targeting the root zone, water isn't wasted on areas that won't benefit the plant.
- Healthier Foliage – Overhead watering means the leaves of the plant stay wet long after irrigating. Wet leaves causes discoloring and spotting. With drip irrigation, the plants leaves remain dry.
- Prevents Fungus – Wet leaves can cause fungus such as powdery mildew to spread. Drip irrigation keeps foliage dry and prevents fungus.
- Prevents Soil Erosion – Drip irrigation is a gentle, steady drip and reduces the amount of runoff, therefor reducing soil erosion.
- Reduces Weeds – Since areas in between the plants won't be receiving water, weeds are less likely to grow.
- Nutrient Runoff Minimized – When there's a large volume of water running off the soils surface it depletes nutrients in that soil. Since drip irrigation reduces runoff it reduces the loss of nutrients.
- Doesn't Require Lot of Levelling and Drainage – Typical irrigation setups leave a lot of water on the soils surface. This means drainage and proper site leveling is required to prevent standing water. With drip irrigation this isn't as

necessary since less water is being used and the water is being directed directly to the root system.

- Works With Low Pressure – Low pressure is actually good for drip irrigation. Most overhead irrigation systems require pressure tanks if there are a lot of sprinkler heads.

**Suitable crops for drip irrigation technique-**

- Drip irrigation is most suitable for row crops (vegetables, soft fruit), tree and vine crops where one or more emitters can be provided for each plant. Generally only high value crops are considered because of the high capital costs of installing a drip system.
- Vegetable plants – Some vegetable plants suitable for the drip irrigation system are Tomato, Chilly, Capsicum, Cabbage, Cauliflower, Onion, Okra, Brinjal, Bitter Gourd, Ridge Gourd, Cucumber, Peas, Spinach, and Pumpkin, etc.
- Cash crops – Some of the cash crops suitable for the drip irrigation system are Sugarcane, Cotton. Areca nut and Strawberry etc.
- Flowers plants – Some of the flower plants suitable for the drip irrigation system are Rose, Carnation, Gerbera, Anthurium, Orchids, Jasmine, Dahilia, and Marigold, etc.
- Plantation crops – Some of the plantation crops suitable for the drip irrigation system are Rubber, Coffee, Coconut, etc.
- Spices – Some of the spices crops suitable for drip irrigation system are Turmeric, Cloves, Mint, etc,
- Oilseeds – Some of the oilseeds suitable for drip irrigation systems are Sunflower, Oil palm, Groundnut, etc.
- Forest crops – Some of the forest crops suitable for drip irrigation systems are Teakwood, Bamboo, etc.

**Conclusion:**

water scarcity has now reached a new level in India. While severe drinking water scarcity is noticed commonly everywhere, farmers are facing a lot of difficulties in cultivating crops with reduced water availability in different regions. What is worrying is that water scarcity is expected to aggravate further in the near future. Projections made by the International Water Management Institute (IWMI) indicate that one-third of the world population would face absolute water scarcity by the year 2025. NITI Aayog's report (2018) on 'composite water management index' also underlined the depressing state of water stress. There is much scope for easing water scarcity in agriculture. The agricultural sector (irrigation) currently consumes about 80 per cent of water in India, drip irrigation can play an important role in easing the water stress in India its potential in increasing farm productivity also is well known.

**16. What are run off river hydropower plants? Are there environmental hazards associated with such plants? Examine.**

**Approach**

We need to define run off river hydropower plants and deliberate on how they impact environment. We need to examine both positive and negative impact of run off river hydropower plants on environment

**Introduction**

India is committed to have 40 per cent of its installed capacity from non-fossil fuel sources by 2030, and is pursuing a renewable target of 175 GW by 2022 and 450 GW by 2030. Therefore, hydropower is highly relevant for grid integration of renewable energy and for achieving well intended climate and developmental goals.

**Body**

- Run-of-river hydropower plant channels flowing water from a river through a canal or penstock to spin a turbine. Typically a run-of-river project will have little or no storage facility.
- Run-of-river provides a continuous supply of electricity (base load), with some flexibility of operation for daily fluctuations in demand through water flow that is regulated by the facility.
- The best sites for run of river projects are where there is strong year-round water flow and a large gravitational drop, or hydrostatic head.

**Run off hydropower plants are preferred over large dams due to following environmental benefit –**

- Lack of a major reservoir reduces the environmental footprint of run of river plants
- Unlike fossil fuel plants they do not emit greenhouse gases.
- Cause less harm to biodiversity.
- Can be built in difficult terrains like Himalayas and other hilly regions
- Provide electricity to population located at distant geographies.

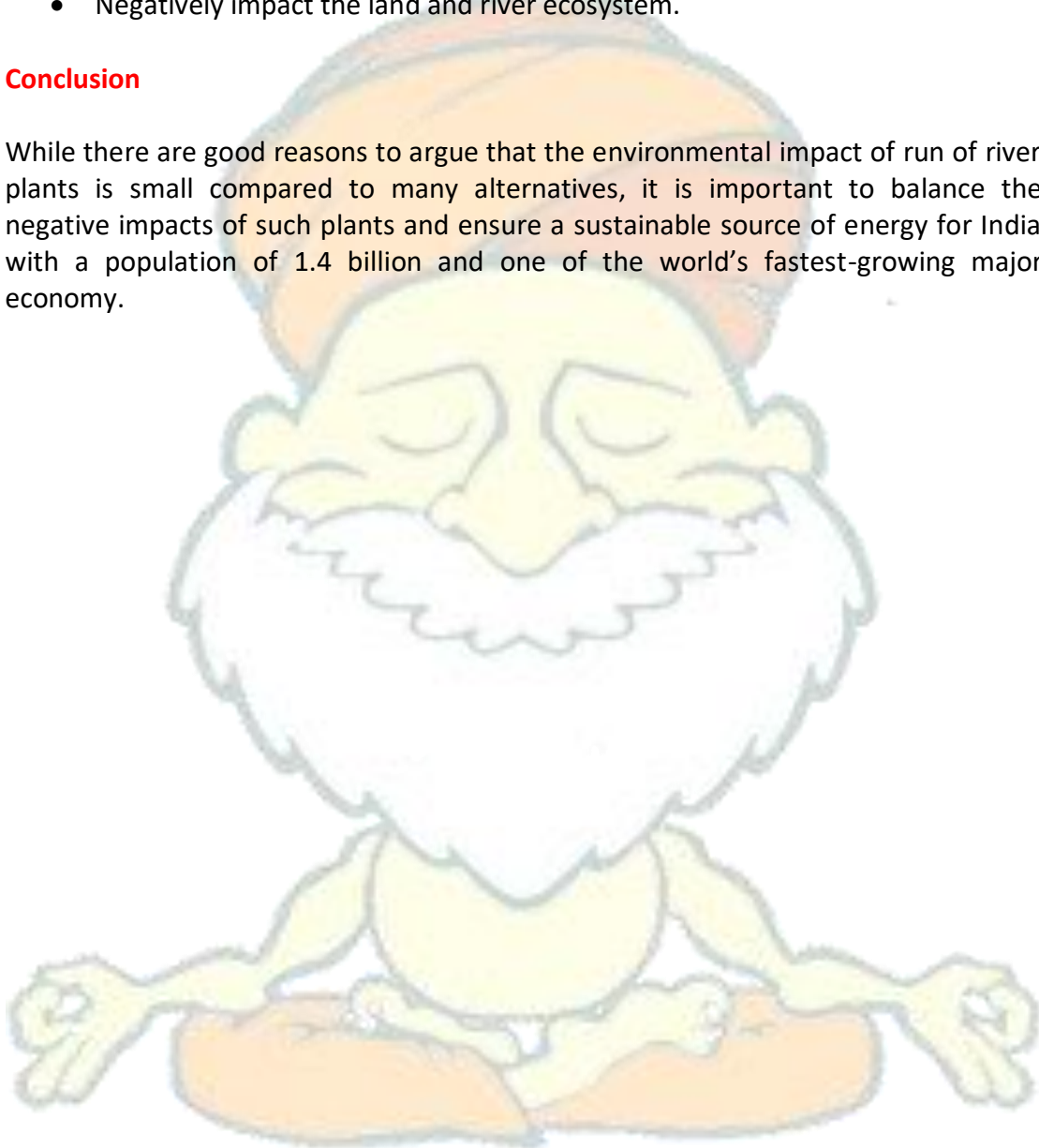
In recent years, run-of-the-river hydropower projects have emerged as a viable, low-impact alternative to existing large-scale projects, India has number of ROR hydroelectric power stations such as Baglihar Dam, Nathpa Jhakri and Shringar Hydropower Station, Ratle Hydroelectric Plant, Maheshwar Hydropower Plant and Kishanganga Hydroelectric Plant are under construction.

**However, run off river hydropower plants are associated with following environmental hazards:**

- They often cause drops in water flow and changes in water temperature which in turn drive declines in fish populations.
- Access roads and transmission lines cause habitat fragmentation and destruction
- Stretch of river in between diverted point and re-joining point suffers from water depletion and loss of vegetation.
- Increase sedimentation in the river.
- Negatively impact the land and river ecosystem.

### Conclusion

While there are good reasons to argue that the environmental impact of run of river plants is small compared to many alternatives, it is important to balance the negative impacts of such plants and ensure a sustainable source of energy for India with a population of 1.4 billion and one of the world's fastest-growing major economy.



**17. What are the challenges related to procurement, storage and transportation of agricultural produce in India? Analyse.**

**Approach**

Students are expected to write about agriculture sector in India and its weightage in India's economy and analyse about the challenges related to agriculture in procurement, storage and transportation.

**Introduction**

India's agriculture sector plays a crucial role in Indian economy. Over 58 % of rural-households depend on agriculture as their primary means of livelihood. Along with fisheries and forestry agriculture is one of the largest contributors to nations GDP.

**Body**

The 7500+ Agricultural Procurement and Marketing Committee (APMC) mandis provide a marketplace for the transaction and the Food Corporation of India (FCI) plays the role of the buyer, storing the procured produce in the relevant warehousing corporation's warehouse.

Challenges related to procurement, storage and transportation:

- Flawed Agricultural Marketing Policies: Due to restrictions imposed by Agricultural Produce Market Committee Acts passed by various states, Indian farmers today can only sell their produce at Farmgate or local market (haat) to village aggregators, APMC mandis and to government at the minimum support price (MSP).
- Limited reach of mandis: Also, this procurement system has failed to cover the entire country evenly back of the envelope calculation suggests that on an average, a farmer needs to travel 12 kms to reach the nearest mandi and more than 50 kms in NE India while according to the recommendations by National Farmers Commission, availability of markets should be within a 5 km radius.
- Procurement problems: Almost 2/3rd of the total cereal production is taken through the route of MSP, leaving only 1/3rd for open market. Hence, farmer can't take benefit of market prices and has to depend solely on the MSP. It prevents the farmer from earning of profits.
- Too many intermediaries, information asymmetry: The above mentioned problems have led to formation of long marketing channels, with multiple intermediaries, adding to the woes of the producers of perishable agri goods. These intermediaries have led to a cost inflation of 250% (over the cost of production) and have exacerbated the existing information asymmetries in agriculture, especially for non-MSP crops.
- Inadequate infrastructure for storage: As per agriculture survey has recently estimated the gap between agri-warehousing supply and demand at 35 mn MT. Currently, public sector agencies like the FCI, Central Warehousing

Corporations (CWC) and the various State Warehousing Corporations (SWC) have a storage capacity of 71 mn MT, while the private sector has close to 25 mn MT.

- Inefficient price signals: The government has been buying almost one-third of all rice and wheat produced in India through the PDS system, but in other kinds of grains, fruits and vegetables (both being highly perishable), the role of the government is limited. This leads to MSPs being ineffective as both price signals and as insulators from the perspective of the larger agricultural population.
- Skewed distribution of capacity: Skewed distribution of this capacity is another issue, with North India having access to 60% of the total storage infrastructure. Different survey has recently estimated the gap between agri-warehousing supply and demand at 35 mn MT.
- Lack of cold storage infrastructure: India's current cold storage capacity at 25 MT is barely sufficient for 10% of fruit and vegetables produced in the country.

Indian farmers incur Rs 92,651 crore per year in post-harvest losses, the primary causes of which are poor storage and transportation facilities according to the high-level Dalwai committee report. Therefore various steps to tackle the challenges and wayforward are:

- The post-harvest losses can be substantially reduced if they are shifted to trains and flights for example recently government announced Kisan rail and Kisan udaan scheme.
- Reducing the information asymmetry with high mobile Internet penetration in rural India, Reuters Market Light and Fasal Intuit are working on the problem of information asymmetry for agricultural producers, by making personalized agricultural market information available to the farmers.
- Alternate marketplaces a young innovative company, eFarm, is providing a way to bypass the long chain of intermediaries by directly connecting buyers and sellers of agricultural produce.
- NITI Aayog is working on alternative mechanism. A counterpart of the MSP is the Market Intervention Scheme (MIS), under which the state government procures perishable commodities like vegetable items.
- Integrated cold chain solutions with PM SAMPADA and ColdStar Logistics provides customized solutions for cold storage and refrigerated transportation across India for fresh and frozen commodities.
- To provide an alternative, the government aims to set up 10,000 new Farmer Producer Organisations by 2023-'24 to encourage farmers to come together as shareholders to increase production and to market their crops more effectively. The finance ministry has set aside Rs 1 lakh crore to disburse easy loans to these Farmer Producer Organisations.

### **Conclusion**

Farmers' income can improve substantially if they are able to capture a greater share in the supply chain from farm gate to consumer. For this to happen, farmers must

have the freedom to sell what they want, where they want, and when they want without any restrictions on sale, stocking, movement, and export of farm produce.

