# UPSC CSE (Main) 2017

# **General Studies Paper-III**

Q1. Among several factors for India's potential growth, savings rate is the most effective one. Do you agree? What are the other factors available for growth potential?

(150 words) [10]

## Approach to question:

While the savings rate is an important factor for India's potential growth, it is not the sole determinant. Other factors also contribute significantly to the country's growth potential. These include:

- 1. Investment: Besides savings, the level and efficiency of investment play a crucial role in driving economic growth. Productive investment in infrastructure, industries, and human capital is essential to stimulate economic activity and generate employment opportunities.
- 2. Technology and Innovation: Embracing technological advancements and promoting innovation fosters productivity and competitiveness, leading to sustained economic growth. Investments in research and development, digital infrastructure, and skill development are vital for technological progress.

Investment, technology and innovation, human capital development, governance and institutions, infrastructure development, global integration, and social development are all crucial elements that collectively contribute to India's potential for growth. These factors must be addressed and prioritized holistically to achieve sustainable and inclusive economic progress.

## Answer:

India's economic growth potential is a subject of immense interest and analysis. While the savings rate indeed plays a pivotal role, other factors are equally significant in shaping India's growth trajectory.

- Human Capital: A skilled and educated workforce fosters innovation and productivity, leading to sustained growth.
- **2. Infrastructure Development:** Modern infrastructure facilitates trade, connectivity, and efficiency, boosting economic activities.
- **3. Technological Advancements:** Embracing digitalization and emerging technologies enhances productivity and competitiveness.

- **4. Government Policies:** Pro-business reforms, stable regulations, and investor-friendly policies attract investments and stimulate growth.
- Foreign Direct Investment (FDI): Attracting FDI fosters capital inflow, job creation, and knowledge transfer
- **Export Promotion:** Diversifying and expanding exports strengthens India's position in the global market.
- 7. **Political Stability:** A stable political environment fosters investor confidence and long-term planning.
- 8. Entrepreneurship and Innovation: Encouraging startups and innovation drives economic dynamism.
- 9. **Natural Resource Management:** Sustainable use of resources contributes to environmental balance and long-term growth.
- **10. Social Development:** Inclusive growth with improved healthcare, education, and social security enhances human development.

In conclusion, while the savings rate is vital, a holistic approach focusing on these diverse factors is essential to unlock India's full growth potential.

Q2. Account for the failure of manufacturing sector in achieving the goal of labour-intensive exports. Suggest measures for more labour-intensive rather than capital-intensive exports. (150 words) [10]

## Approach to question:

The failure of the manufacturing sector in achieving the goal of labour-intensive exports can be attributed to various factors:

- 1. Insufficient Skill Development: Inadequate emphasis on skill development and training programs has resulted in a lack of skilled labour in labour-intensive industries, hindering their growth and competitiveness.
- Inadequate Infrastructure: Poor infrastructure, including logistics, transportation, and power supply, increases production costs and hampers the ability of labour-intensive industries to compete in global markets.

To encourage more labour-intensive exports, the following measures can be implemented:

- Skill Development Programs: Strengthening skill development initiatives and vocational training programs to address the skill gap and provide a qualified workforce for labourintensive industries.
- 2. Infrastructure Development: Investing in infrastructure development, including transportation networks, industrial parks, and power supply, to enhance the competitiveness and efficiency of labour-intensive industries.

By implementing these measures, India can create an enabling environment for the growth of labourintensive industries and enhance its competitiveness in the global market.

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Q3. Examine the development of airports in India through joint ventures under the Public-Private Partnership (PPP) model. What are the challenges faced by the authorities in this regard? (150 words) [10]

## Approach to question:

The development of airports in India through joint ventures under the Public-Private Partnership (PPP) model has witnessed significant progress. Some key points to examine include:

- 1. Infrastructure Development: PPP initiatives have led to the modernization, expansion, and development of airports across India, enhancing passenger experience and operational efficiency.
- **2. Private Sector Expertise:** Collaboration with private entities brings in technical expertise, investment, and managerial efficiency, leading to the development of world-class airports with state-of-the-art facilities.

However, authorities face challenges in implementing the PPP model for airport development:

- 1. Land Acquisition: Acquiring suitable land for airport expansion and development often encounters challenges related to land availability, ownership disputes, and community resettlement
- 2. Regulatory Framework: Balancing regulatory oversight and investor expectations is crucial to ensuring compliance, safeguarding public interest, and maintaining operational efficiency

However, challenges related to land acquisition, regulatory framework, financial viability, tariff determination, socio-environmental concerns, operational efficiency, and policy stability need to be addressed to foster sustainable and inclusive airport development in the country.

#### Answer:

The development of airports in India through joint ventures under the Public-Private Partnership (PPP) model has been a significant step in enhancing infrastructure and services. This approach leverages private sector efficiency and public sector oversight to foster modernization and expansion.

#### Points:

- **1. Enhanced Infrastructure:** PPP model attracts private investment, leading to the development of world-class airport infrastructure.
- **2. Operational Efficiency:** Private participation improves operational efficiency, service quality, and customer experience.
- **3. Technology Integration:** Private partners bring advanced technologies and management practices, optimizing airport operations.

#### Challenges:

- 1. Regulatory Hurdles: Navigating complex regulatory frameworks and government clearances can cause delays.
- **2. Land Acquisition:** Acquiring land for expansion or greenfield projects may face resistance and delays.
- **3. Financing Issues:** Attracting long-term financing for massive airport projects can be challenging.
- **4. Revenue Sharing:** Arriving at a fair revenue-sharing mechanism between the government and private partners can be difficult.

Despite challenges, the PPP model has proved beneficial in the development of airports, improving connectivity, and contributing to economic growth. Streamlining procedures and addressing challenges can further enhance the success of such collaborations in the aviation sector

Q4. Explain the various types of revolutions that took place in agriculture after independence in India. How have these revolutions helped in poverty alleviation and food security in India? (150 words) [10]

## Approach to question:

After Independence, India witnessed various agricultural revolutions that significantly impacted poverty alleviation and food security:

- Green Revolution: Introduction of high-yielding varieties of seeds, use of modern irrigation techniques, and access to fertilizers resulted in increased agricultural productivity, higher crop yields, and self-sufficiency in food production.
- 2. White Revolution: The promotion of dairy farming, improved breed management, and the establishment of cooperatives like Amul led to a significant increase in milk production, empowering rural farmers, generating income, and improving nutrition.
- 3. Blue Revolution: Emphasizing aquaculture and fishery development, this revolution increased fish production, expanded livelihood opportunities, enhanced nutritional intake, and improved food security, particularly in coastal regions.

These revolutions have helped in poverty alleviation and food security in India through various ways:

- 1. Increased Agricultural Productivity: The adoption of modern farming techniques, improved seeds, and better irrigation methods have led to higher crop yields, increased income for farmers, and reduced dependence on imports, contributing to poverty reduction.
- 2. Income Generation: Agricultural revolutions have created income-generating opportunities for rural communities, enabling them to improve their livelihoods and lift themselves out of poverty.

In conclusion, the agricultural revolutions in India, including the Green Revolution, White Revolution, Blue Revolution, Horticulture Revolution, and Animal Husbandry Revolution, have played a crucial role in poverty alleviation and food security.

## Answer:

Since Independence, India has witnessed several agricultural revolutions aimed at boosting productivity and addressing poverty and food security challenges.

These revolutions have played a vital role in transforming the agricultural landscape and improving the lives of farmers and consumers alike.

### **Types of Revolutions:**

- 1. Green Revolution: Introduced in the 1960s, it emphasized the use of high-yielding varieties, irrigation, and fertilizers, leading to a significant increase in crop production.
- **2. White Revolution (Operation Flood):** Launched in the 1970s, it focused on the dairy sector, making India the largest milk-producing nation.
- 3. **Blue Revolution:** Initiated in the 1990s, it aimed to promote aquaculture and increase fish production.

## Impact on Poverty Alleviation and Food Security:

- 1. Increased Agricultural Output: These revolutions led to surplus production, improving food availability and affordability for consumers.
- **2. Income Generation:** Higher yields and better prices enhanced farmers' income, reducing poverty and rural distress.
- 3. **Employment Opportunities:** Increased agricultural activities created employment, contributing to poverty reduction.

The various agricultural revolutions in India have been instrumental in poverty alleviation, enhancing food security, and elevating the standard of living for millions of people. Continued focus on agricultural development is crucial for sustained progress in the future.

Q5. What are the reasons for poor acceptance of cost-effective small processing unit? How the food processing unit will be helpful to uplift the socio-economic status of poor farmers? (150 words) [10]

#### Approach to question:

Poor acceptance of cost-effective small processing units can be attributed to the following reasons:

- Lack of Awareness: Many farmers may not be aware of the benefits and profitability of small processing units. Limited access to information and technical knowledge about the value addition potential of processed products hinders their acceptance.
- 2. Limited Infrastructure: Inadequate infrastructure, such as insufficient electricity supply, lack of proper storage facilities, and inadequate transportation networks, poses challenges for setting up and operating small processing units.

Food processing units can play a significant role in uplifting the socio-economic status of poor farmers in the following ways:

#### Value Addition:

- Food processing adds value to agricultural produce, allowing farmers to earn higher profits by selling processed products instead of raw materials. This enables them to capture a larger share of the value chain and increase their income.
- Employment Opportunities: Food processing units create employment opportunities, particularly in rural areas. Poor farmers can find employment in these units, leading to improved livelihoods and reduced unemployment.

However, food processing units have the potential to uplift the socio-economic status of poor farmers by adding value to their produce, creating employment opportunities, diversifying markets, reducing post-harvest losses, developing skills, and fostering entrepreneurship. Policy interventions focusing on addressing the challenges and providing support to small processing units can facilitate their acceptance and enable farmers to benefit from the value addition potential of food processing.

#### Answer:

Despite their cost-effectiveness, small food processing units face challenges in gaining widespread acceptance. Understanding these reasons and promoting the establishment of such units can significantly benefit poor farmers, leading to an upliftment of their socio-economic status.

#### Reasons for Poor Acceptance:

- Limited Awareness: Many farmers are unaware of the benefits and potential of small processing units.
- Lack of Technical Know-how: Inadequate knowledge and skills hinder the adoption of processing technologies.
- **3. Financial Constraints:** Access to credit and initial investment costs pose challenges for small-scale farmers.

#### **Benefits to Uplift Socio-economic Status:**

- **1. Value Addition:** Processing units add value to raw produce, leading to higher profits for farmers.
- Reduced Wastage: Processing prevents postharvest losses, ensuring better returns on investments.
- **3. Employment Opportunities:** Setting up units creates jobs, benefiting the local community and reducing rural-urban migration.

Promoting cost-effective small processing units among farmers is crucial to capitalize on their potential benefits, uplifting the socio-economic status of poor farmers and driving rural development. Government support, technical assistance, and market linkages are vital to fostering their wider acceptance and successful implementation.

**Q6.** Stem cell therapy is gaining popularity in India to treat a wide variety of medical

conditions including Leukaemia, Thalassemia, damaged cornea and severe burns. Describe briefly what stem cell therapy is and what advantages it has over other treatments. (150 words) [10]

## Approach to question:

Stem cell therapy involves the use of stem cells, which are undifferentiated cells capable of differentiating into various specialized cell types. It is gaining popularity in India for treating diverse medical conditions like Leukaemia, Thalassemia, damaged cornea, and severe burns. The advantages of stem cell therapy over other treatments include:

- 1. Regenerative Potential: Stem cells can repair and regenerate damaged tissues, promoting natural healing processes in the body.
- 2. Reduced Risk of Rejection: Autologous stem cells sourced from the patient's own body eliminate the risk of immune rejection compared to conventional transplants

Overall, stem cell therapy holds immense potential in revolutionizing medical treatments by harnessing the regenerative capabilities of stem cells to address a wide array of medical conditions.

#### Answer:

Stem cell therapy is an innovative medical approach that utilizes the regenerative potential of stem cells to treat various medical conditions. India has witnessed growing popularity of this therapy to address ailments like Leukaemia, Thalassemia, damaged cornea, and severe burns.

## Advantages of Stem Cell Therapy:

- **1. Regenerative Potential:** Stem cells possess the ability to differentiate into specialized cells, facilitating tissue repair and regeneration.
- **2. Reduced Rejection:** Using the patient's own stem cells (autologous transplantation) minimizes the risk of rejection.
- **3. Lesser Side Effects:** Stem cell therapy often involves fewer side effects compared to traditional treatments like chemotherapy.
- **4. Broad Applicability:** It shows promise in treating a wide range of diseases, providing versatile treatment options.
- **5. Personalized Medicine:** Tailoring therapies to individual patients increases treatment efficacy and reduces complications.

Stem cell therapy's regenerative potential and advantages over conventional treatments make it a promising frontier in medical science, offering hope for better outcomes in various challenging medical conditions in India and worldwide.

**Q7.** India has achieved remarkable successes in unmanned space missions including the

Chandrayaan and Mars Orbitter Mission, but has not ventured into manned space missions. What are the main obstacles to launching a manned space mission, both in terms of technology and logistics? Examine critically. (150 words) [10]

## Approach to question:

India has witnessed remarkable successes in unmanned space missions like Chandrayaan and Mars Orbiter Mission. However, the country has not yet embarked on manned space missions. The main obstacles to launching a manned space mission, both in terms of technology and logistics, are:

- Technological Challenges: Developing and ensuring the reliability of life support systems, spacecraft capable of carrying humans safely, and re-entry technology are complex tasks that require significant advancements in engineering and technology
- 2. Cost and Funding: Manned missions demand substantial financial investments. Allocating resources for research, development, and operational costs poses a significant challenge for a developing country like India.
- 3. Human Safety: Ensuring the safety and well-being of astronauts during space travel, including protection from radiation and prolonged exposure to microgravity, remains a critical concern that requires robust systems and extensive research.

In conclusion, while India has achieved remarkable successes in unmanned space missions, launching manned space missions poses significant technological and logistical challenges.

#### Answer:

India has made significant strides in unmanned space missions, showcasing its capabilities with Chandrayaan and Mars Orbiter Mission. However, venturing into manned space missions presents formidable challenges in terms of technology and logistics.

## **Obstacles to Manned Space Missions:**

- Technological Complexity: Human spaceflight demands highly reliable life support systems, advanced spacecraft, and crew safety measures.
- **2. Cost Intensiveness:** Manned missions entail substantial investments in infrastructure, training, and mission preparation.
- **3. Human Safety:** Ensuring crew safety during launch, space travel, and re-entry is paramount, demanding robust contingency plans.
- **4. Long-duration Space Travel:** Extended missions require solutions for psychological and physiological challenges for astronauts.

**5. Logistic Management:** Coordinating logistics, pre-mission preparations, and crew training pose significant logistical challenges.

While India's achievements in unmanned space missions are commendable, the hurdles in technology, cost, safety, and logistics necessitate a critical examination of the viability and readiness for manned space missions. Strategic planning and collaboration with experienced space agencies can help India overcome these obstacles in the future.

Q8. Not many years ago, river linking was a concept but it is becoming a reality in the country. Discuss the advantages of river linking and its possible impact on the environment. (150 words) [10]

## Approach to question:

## Advantages of River Linking:

- Flood Control: River linking can help regulate water flow by diverting excess water from floodprone areas to water-deficient regions, reducing the risk of floods and minimizing damage to life and property.
- Irrigation Benefits: Linking rivers can enhance irrigation potential by transferring water from water-rich regions to water-deficient regions. This can improve agricultural productivity, increase crop yields, and mitigate drought conditions.

## **Possible Impact on the Environment:**

- 1. Ecological Disruption: Altering the natural flow patterns of rivers and diverting water can disrupt ecosystems, impacting aquatic habitats, flora, and fauna. Changes in water availability and quality can affect the delicate balance of aquatic biodiversity.
- 2. Displacement and Rehabilitation: River linking projects may require the acquisition of land and displacement of communities residing in the project areas. Proper planning and rehabilitation measures must be implemented to minimize social and economic disruptions.

It is important to note that the advantages of river linking must be weighed against the potential environmental impacts. Proper planning, environmental assessments, stakeholder consultations, and sustainable management practices are essential to mitigate adverse effects and ensure the long-term ecological sustainability of river linking projects.

#### Answer:

River linking, once a concept, is now becoming a reality in India as the government pursues ambitious projects to interconnect rivers. This approach aims to address water scarcity and enhance irrigation and water availability.

## Advantages of River Linking:

- Water Management: River linking facilitates efficient water management, reducing floods and droughts in different regions.
- **2. Increased Irrigation:** It expands irrigation potential, boosting agricultural productivity and rural economies.
- **3. Water Security:** Interconnecting rivers enhances water security, ensuring sustainable water supply for diverse needs.
- Hydroelectricity Generation: River linking projects can generate hydroelectric power, contributing to clean energy production.

## **Possible Impact on Environment:**

- Ecological Disruptions: Altering natural river courses can disrupt ecosystems and affect aquatic biodiversity.
- **2. Land Submergence:** Submergence of land during dam construction may lead to the displacement of local communities.
- Altered River Flows: River linking can change water flow patterns, affecting downstream regions and wetlands.
- **4. Soil Erosion:** Altered river flows may contribute to soil erosion and sedimentation.

River linking offers substantial advantages in water management and agricultural development. However, careful environmental assessment and mitigation measures are necessary to minimize the potential negative impacts on ecosystems and communities. A balanced approach must be adopted to ensure sustainable development and conservation of natural resources.

# **Q9.** Discuss the potential threats of Cyber attack and the security framework to prevent it. (150 words) [10]

### Approach to question:

## Potential threats of Cyber Attacks:

- Data Breaches: Cyber attacks can result in the unauthorized access, theft, or exposure of sensitive data, including personal information, financial records, or intellectual property, leading to identity theft, financial loss, or reputational damage.
- 2. Malware and Ransomware: Cybercriminals deploy malicious software to gain control over systems, disrupt operations, or extort money. Ransomware attacks encrypt data and demand ransom for its release, causing significant financial and operational disruptions.

## **Security Framework to Prevent Cyber Attacks:**

**Strong Authentication:** Implementing multifactor authentication (MFA) and strong password

- policies helps ensure that only authorized individuals can access systems and data.
- 2. Regular Software Updates and Patches: Applying timely security updates and patches to operating systems, software, and devices minimizes vulnerabilities that can be exploited by attackers.

By implementing a comprehensive security framework that combines technological measures, employee training, and proactive security practices, organizations can significantly reduce the risk of cyber attacks and safeguard their systems, data, and stakeholders.

#### Answer

In the digital age, cyber attacks pose significant threats to national security, critical infrastructure, and personal data. It is essential to have a robust security framework to counter and prevent cyber attacks effectively.

#### **Potential Threats of Cyber Attacks:**

- 1. **Data Breaches:** Unauthorized access to sensitive data compromises privacy and exposes individuals to identity theft.
- **Ransomware:** Malicious software encrypts data, demanding ransom for its release, disrupting operations and causing financial losses.
- **3. Critical Infrastructure Attacks:** Targeting power grids, transportation, or communication systems can cripple essential services.

#### **Security Framework to Prevent Cyber Attacks:**

- Strong Cyber Laws: Enactment and enforcement of robust cyber laws and regulations to deter cybercriminals.
- **2. Cybersecurity Awareness:** Promote awareness and training programs to educate individuals and organizations about cyber threats.
- **3. Secure Networks:** Strengthening network security through encryption, firewalls, and intrusion detection systems.

The potential threats of cyber attacks require a comprehensive security framework that encompasses legal, technical, and collaborative measures. Prioritizing cybersecurity is imperative to safeguard national interests, critical infrastructure, and personal data from evolving cyber threats.

Q10. The North-East region of India has been infested with insurgency for a very long time. Analyze the major reasons for the survival of armed insurgency in this region.

(150 words) [10]

## Approach to question:

**1. Historical Marginalization:** The North-East region has experienced a historical sense of alienation and marginalization from the Indian

- mainland, leading to a deep-rooted sense of grievances among the local population. This has created fertile grounds for insurgency.
- 2. Ethnic and Cultural Diversity: The region is home to numerous ethnic communities, each with distinct identities, languages, and aspirations. The diverse socio-cultural fabric has often led to inter-ethnic tensions and conflicts, providing a breeding ground for insurgent groups to exploit existing fault lines.

In conclusion, the survival of armed insurgency in the North-East region of India can be attributed to historical marginalization, ethnic and cultural diversity, geographical challenges, socio-economic factors, crossborder dynamics, governance failures, ideological motivations, and historical legacies.

#### Answer:

The North-East region of India has grappled with armed insurgency for decades, posing a significant challenge to national security and development. Several reasons contribute to the persistence of insurgency in the region.

#### Major Reasons for the Survival of Armed Insurgency:

- Ethnic and Socio-economic Grievances:
   Marginalization, identity issues, and socio-economic disparities fuel discontent and provide a breeding ground for insurgency.
- Cross-Border Linkages: Proximity to international borders enables insurgent groups to seek external support and safe havens.
- **3. Weak Governance:** Inadequate governance, corruption, and lack of developmental initiatives create a fertile environment for insurgency.
- Porous Borders: Porous borders with neighbouring countries facilitate the movement of insurgents and arms smuggling.
- Unresolved Political Issues: Lingering political issues and delayed resolution fuel resentment and perpetuate armed resistance.

Addressing the roots of insurgency in the North-East demands a multi-dimensional approach, including socio-economic development, improved governance, regional cooperation, and lasting political solutions. Only by effectively addressing these issues can India hope to bring lasting peace and stability to the region.

Q11. One of the intended objectives of the Union Budget 2017-18 is to 'transform, energize and clean India'. Analyze the measures proposed in the Budget 2017-18 to achieve the objective. (250 words) [15]

## Approach to question:

- 1. Infrastructure Development: The Budget 2017-18 allocated significant funds for infrastructure development, including highways, railways, and airports. This aimed to transform India's transportation network, boost economic growth, and improve connectivity.
- 2. Affordable Housing: The budget proposed several measures to promote affordable housing, such as infrastructure status to the affordable housing sector, tax incentives for developers, and increased allocation for rural housing schemes. These measures aimed to energize the construction sector and provide housing for all, especially the economically weaker sections.

These measures focused on infrastructure development, affordable housing, renewable energy promotion, Swachh Bharat Mission, digital payments and tax reforms, skill development, agricultural reforms, and improving education and healthcare. By addressing these key areas, the budget aimed to bring about significant changes in India's socio-economic landscape, fostering growth, inclusivity, and sustainability.

#### Answer:

The Union Budget 2017-18 aimed to achieve the objective of 'transforming, energizing, and cleaning India' through a series of measures that encompassed various sectors. The following points analyze the key measures proposed in the budget to achieve this objective:

- Infrastructure Development: The budget allocated substantial funds for infrastructure development, focusing on areas such as roads, railways, and airports.
- 2. Affordable Housing: The budget emphasized affordable housing as a crucial aspect of transformation and energization. It provided infrastructure status to the affordable housing sector, granting tax incentives to developers and extending the benefits of Pradhan Mantri Awas Yojana (PMAY) to a larger population.
- 3. Renewable Energy Promotion: The budget emphasized clean and sustainable energy sources by promoting the renewable energy sector. It introduced various incentives, including tax benefits for solar power projects, increased funding for the Green Energy Corridor project, and the development of solar parks across the country.
- 4. Swachh Bharat Mission: The budget allocated significant funds to the Swachh Bharat Mission, which aimed to clean India and improve sanitation facilities across the country. It focused on constructing toilets, improving waste management systems, and promoting behavioral changes towards cleanliness.

5. Digital Payments and Tax Reforms: The budget proposed measures to energize the digital economy and promote digital transactions. It aimed to reduce cash transactions, encourage digital payments, and enhance financial inclusion.

In conclusion, the Union Budget 2017-18 laid out a comprehensive roadmap to transform, energize, and clean India. The measures proposed in the budget encompassed infrastructure development, affordable housing, renewable energy promotion, Swachh Bharat Mission, digital payments and tax reforms, skill development, agricultural reforms, and improvements in education and healthcare.

Q12. "Industrial growth rate has lagged behind in the overall growth of Gross Domestic Product (GDP) in the post-reform period". Give reasons. How far the recent changes in Industrial-Policy are capable of increasing the industrial growth rate?

(250 words) [7+8=15]

## Approach to question:

Reasons for lagging industrial growth rate in postreform period:

- 1. Inadequate Infrastructure: Insufficient infrastructure development, including power supply, transportation, and logistics, has hampered industrial growth.
- 2. Complex Regulatory Environment: Cumbersome regulations, bureaucratic red tape, and lack of ease of doing business have hindered industrial expansion.

## Recent changes in Industrial Policy:

- 1. **Simplification of Regulations:** The government has taken steps to simplify regulations, reduce compliance burden, and improve ease of doing business.
- 2. Infrastructure Development: Initiatives such as the National Infrastructure Pipeline aim to boost infrastructure development and provide necessary support to industries.

Simplification of regulations, improved infrastructure, enhanced credit access, skill development, and the focus on self-reliance can foster a conducive environment for industrial expansion.

## Answer:

In the post-reform period, India experienced significant economic growth, but the industrial sector's contribution to the Gross Domestic Product (GDP) has not kept pace. This discrepancy can be attributed to several reasons. However, recent changes in the industrial policy hold the potential to revitalize the industrial sector and boost its growth rate.

### Reasons for Lagging Industrial Growth Rate:

 Service Sector Dominance: The services sector, particularly IT and BPO industries, experienced

- rapid growth, diverting investment and focus from traditional industries.
- **2. Infrastructure Bottlenecks:** Inadequate infrastructure, including power, transportation, and logistics, hampered industrial productivity and expansion.
- 3. Complex Regulations: Cumbersome regulations and bureaucratic hurdles hindered ease of doing business and discouraged industrial investments.
- **4. Land Acquisition Challenges:** Difficulties in acquiring land for industrial projects impeded industrial growth.
- Limited Access to Finance: The industrial sector, especially small and medium enterprises, faced difficulties in accessing credit from formal financial institutions.

## Recent Changes in **Industrial Policy to Boost Growth:**

- 1. Make in India Initiative: The government's flagship program aims to boost manufacturing and attract foreign investment, encouraging industrial growth.
- Ease of Doing Business: Streamlining regulatory procedures and digitalization efforts aim to improve the business environment for industries.
- 3. Infrastructure Development: Focused efforts on infrastructure development, such as the Bharatmala Project, aim to facilitate industrial growth.
- 4. MSME Support: Financial support and incentives for Micro, Small, and Medium Enterprises (MSMEs) aim to enhance their competitiveness and contribute to industrial growth.

While the industrial sector's growth rate has lagged behind, the recent changes in industrial policy hold promise in addressing the bottlenecks and reviving the sector. By prioritizing infrastructure development, easing regulatory burdens, and providing support to MSMEs, India can propel its industrial growth and achieve a more balanced and sustainable economic development path.

Q13. What are the salient features of 'inclusive growth'? Has India been experiencing such a growth process? Analyse and suggest measures for inclusive growth.

(250 words) [15]

## Approach to question:

Salient features of inclusive growth:

- 1. Reduction of Poverty: Inclusive growth aims to reduce poverty and ensure equitable distribution of resources and opportunities.
- **2. Income Equality:** It focuses on reducing income inequality by providing equal access to incomegenerating opportunities for all segments of society.

## India's experience of inclusive growth:

India has made significant progress towards inclusive growth, but challenges persist. The informal sector, which employs a significant portion of the population, faces issues of low wages and job insecurity.

#### Measures for inclusive growth:

- Targeted Social Programs: Implement targeted social programs, such as direct benefit transfers, to provide financial assistance and social protection to vulnerable sections of society.
- 2. Skill Development: Enhance skill development programs to equip individuals with the necessary skills for employment and entrepreneurship, focusing on sectors with high growth potential.

By implementing these measures, India can further advance its inclusive growth agenda, ensuring that the benefits of development reach all sections of society and reducing inequalities across various dimensions.

#### Answer:

Inclusive growth refers to a development process that benefits all sections of society, ensuring equal access to opportunities and benefits of economic growth. It aims to reduce poverty, inequality, and social disparities, promoting sustainable and equitable development.

### **Salient Features of Inclusive Growth:**

- Poverty Reduction: Inclusive growth focuses on uplifting the poor and vulnerable by creating employment opportunities and enhancing income levels.
- 2. Social Inclusivity: It ensures that marginalized groups, such as women, minorities, and differently-abled individuals, have equal access to education, healthcare, and economic opportunities.
- **3. Regional Balance:** Inclusive growth seeks to bridge regional disparities and promote balanced development across different states and regions.
- 4. Human Development: It emphasizes investments in education, skill development, and healthcare to enhance human capital and promote overall wellbeing.

India's Experience with Inclusive Growth: India has made progress in reducing poverty and improving human development indicators. However, challenges persist in addressing income inequality, regional disparities, and social exclusion.

#### Measures for Inclusive Growth:

- **1. Employment Generation:** Focus on labor-intensive sectors and entrepreneurship to create more jobs and enhance income levels.
- **2. Skill Development:** Invest in skill training and vocational education to improve employability and income opportunities for the workforce.
- **3. Targeted Welfare Programs:** Strengthen targeted social welfare schemes to provide support to the most vulnerable sections of society.

**4. Infrastructure Development:** Enhance infrastructure in rural and backward regions to promote balanced growth and connect remote areas.

Achieving inclusive growth is essential for sustainable and equitable development. By addressing the challenges and implementing targeted measures, India can progress towards a more inclusive and prosperous society, ensuring that the benefits of economic growth reach all segments of the population.

Q14. What are the major reasons for declining rice and wheat yield in the cropping system? How crop diversification is helpful to stabilize the yield of the crops in the system?

(250 words) [15]

## Approach to question:

Major reasons for declining rice and wheat yield in the cropping system:

- 1. Soil Degradation: Continuous cultivation of rice and wheat depletes soil nutrients, leading to reduced fertility and productivity.
- **2. Pest and Disease Pressure:** Monocropping of rice and wheat makes crops more susceptible to pests and diseases, leading to yield losses.

#### Crop diversification to stabilize yield:

- 1. **Pest and Disease Management:** By diversifying crops, pests and diseases specific to rice and wheat can be reduced, minimizing yield losses.
- 2. **Nutrient Cycling:** Crop diversification helps in nutrient cycling, as different crops have varied nutrient requirements. This reduces nutrient depletion and enhances soil fertility.

Overall, crop diversification is helpful in stabilizing the yield of crops in the system by mitigating risks, improving soil health, and optimizing resource utilization. It promotes sustainable agriculture practices, enhances farmer livelihoods, and contributes to food security.

#### Answer:

India's rice and wheat cropping system has faced challenges in sustaining yields. Identifying the reasons behind the declining yield and implementing crop diversification measures can help stabilize crop productivity.

## Major Reasons for Declining Rice and Wheat Yield:

- 1. Soil Degradation: Excessive use of chemical fertilizers and inadequate soil conservation practices have led to soil degradation and reduced fertility.
- **2. Water Stress:** Over exploitation of groundwater and erratic monsoon patterns have resulted in water stress, affecting crop yields.
- **3. Pest and Disease Incidence:** Persistent use of single crop varieties has led to pest and disease build-up, impacting yields.

- **4. Monoculture Effect:** Continuous cultivation of rice and wheat has resulted in nutrient imbalances and reduced crop productivity.
- Climate Change: Increasing temperatures and extreme weather events have adversely affected rice and wheat yields.

## **Crop Diversification for Yield Stabilization:**

- Nutrient Cycling: Crop diversification promotes the rotation of different crops, enhancing nutrient recycling and soil health.
- Pest and Disease Management: Planting diverse crops disrupts pest life cycles and reduces disease incidence.
- **3. Water Use Efficiency:** Diversification allows for efficient water use as crops with different water requirements are cultivated.
- 4. Climate Resilience: Diverse cropping systems are more resilient to climate variability and extreme events
- **5. Income Diversification:** Crop diversification provides farmers with multiple income streams, reducing dependence on a single crop.

Understanding the reasons for declining rice and wheat yield is crucial in devising effective strategies to stabilize crop productivity. Crop diversification offers a sustainable approach to enhance resilience, improve soil health, and stabilize yields, ensuring food security and enhancing farmers' income in the long run.

Q15. How do subsidies affect the cropping pattern, crop diversity and economy of farmers? What is the significance of crop insurance, minimum support price and food processing for small and marginal farmers?

(250 words) [15]

## Approach to question:

Subsidies can significantly impact the cropping pattern, crop diversity, and the economy of farmers in the following ways:

- 1. **Distorted cropping pattern:** Subsidies on certain crops may encourage farmers to focus on those crops, leading to an imbalanced cropping pattern with overproduction of subsidized crops and reduced cultivation of others.
- 2. Reduced crop diversity: When subsidies are concentrated on a few crops, farmers are less motivated to diversify their crop choices. This can result in a decline in crop diversity, posing risks to food security and increasing vulnerability to pests, diseases, and market fluctuations.

Crop insurance, minimum support price (MSP), and food processing play crucial roles in supporting small and marginal farmers:

- 1. Crop insurance: It provides a safety net for farmers by compensating them for losses caused by natural calamities or crop failure. It reduces farmers' vulnerability, encourages risk-taking, and enhances their confidence to invest in agriculture.
- 2. Minimum support price (MSP): It ensures a guaranteed price for farmers' produce, protecting them from market fluctuations and ensuring income stability. MSPs incentivize farmers to grow crops, particularly staples, by providing a fair return on their investment.

In summary, while subsidies can impact cropping patterns and diversity, crop insurance, MSP, and food processing are vital for small and marginal farmers, providing risk mitigation, income security, and market access, respectively.

#### Answer:

Subsidies play a crucial role in influencing the cropping pattern, crop diversity, and the overall economy of farmers. Additionally, crop insurance, minimum support price (MSP), and food processing are essential for the well-being of small and marginal farmers in India.

#### **Impact of Subsidies:**

- 1. Cropping Pattern: Subsidies on certain inputs may incentivize farmers to focus on specific crops, leading to a shift in the cropping pattern.
- Crop Diversity: Overemphasis on certain subsidized crops may reduce crop diversity, negatively impacting soil health and biodiversity.
- **3. Farmer's Income:** Subsidies on inputs like fertilizers and seeds can reduce production costs, leading to increased farm income.
- **4. Fiscal Burden:** High subsidy expenditure puts pressure on the government's fiscal resources, affecting the overall economy.

## Significance of Crop Insurance, MSP, and Food Processing:

- **1. Crop Insurance:** Provides a safety net to farmers against crop losses due to natural calamities, ensuring financial security.
- **2. Minimum Support Price (MSP):** Assures farmers of a minimum price for their crops, protecting them from market price fluctuations and ensuring fair returns.
- **3. Food Processing:** Enables value addition to agricultural produce, reducing post-harvest losses, increasing income, and creating employment opportunities for farmers.

Subsidies play a dual role in influencing cropping patterns and farm economics. Crop insurance, MSP, and food processing are crucial tools in providing stability, financial security, and better market opportunities for small and marginal farmers, contributing to the overall growth and well-being of the agricultural sector.

Q16. Give an account of the growth and development of nuclear science and technology in India. What is the advantage of fast breeder reactor programme in India?

(250 words) [15]

## Approach to question:

The growth and development of nuclear science and technology in India can be summarized as follows:

- 1. Early stages: India's nuclear program began in the 1940s with the establishment of the Tata Institute of Fundamental Research. In the 1950s, the Atomic Energy Establishment was set up to focus on nuclear research and development.
- 2. Peaceful use of nuclear energy: India's nuclear program has primarily focused on peaceful applications, such as power generation, agriculture, medicine, and industry.

The advantages of India's fast breeder reactor (FBR) program are as follows:

- 1. Efficient use of resources: FBRs can generate more nuclear fuel than they consume. They utilize fast neutrons to convert non-fissile materials into fissile materials, increasing the efficiency of fuel utilization.
- **2. Fuel availability:** FBRs can use abundant thorium reserves as fuel, reducing dependence on imported uranium and ensuring long-term fuel availability.

The fast breeder reactor program offers advantages such as efficient resource utilization, fuel availability, waste management, energy security, and technological advancement.

#### Answer:

India's journey in nuclear science and technology has been marked by significant growth and development since its inception. The country has made remarkable strides in harnessing nuclear energy for peaceful purposes and expanding its nuclear research and power generation capabilities.

Growth and Development of Nuclear Science and Technology in India:

- 1. Early Years: India's nuclear program began in the 1940s with the establishment of the Tata Institute of Fundamental Research and the Atomic Energy Establishment, Trombay.
- Peaceful Nuclear Explosion: India conducted its first nuclear test in 1974, asserting its nuclear capabilities for peaceful purposes.
- 3. Nuclear Power Generation: India established its first nuclear power plant, Tarapur Atomic Power Station, in 1969, and has since developed several nuclear power plants across the country.
- 4. **Nuclear Research:** India has invested in nuclear research, leading to advancements in nuclear medicine, agriculture, and materials science.

**5. International Cooperation:** India has engaged in nuclear cooperation with other countries, including signing civil nuclear agreements with various nations.

## Advantages of Fast Breeder Reactor Programme in India:

- 1. Resource Utilization: Fast breeder reactors use thorium as fuel, which is more abundant in India than uranium, ensuring long-term fuel sustainability.
- **2. Plutonium Utilization:** Fast breeder reactors can utilize plutonium, a byproduct of conventional reactors, as fuel, reducing nuclear waste.
- **3. Enhanced Safety:** The design of fast breeder reactors incorporates passive safety features, enhancing reactor safety.
- 4. Energy Security: The fast breeder reactor program can potentially boost India's energy security by providing a viable and sustainable source of nuclear power.

India's progress in nuclear science and technology is a testament to its commitment to using nuclear energy for peaceful purposes and achieving energy security. The fast breeder reactor program holds immense promise for meeting future energy demands and ensuring sustainable nuclear power generation in the country.

Q17. Climate change is a global problem. How India will be affected by climate change? How Himalayan and coastal states of India will be affected by climate change?

(250 words) [15]

### Approach to question:

India will be significantly affected by climate change in the following ways:

- **1. Temperature rise:** Increasing temperatures will lead to heatwaves, impacting public health, agriculture, and water resources.
- 2. Changing rainfall patterns: Climate change will alter monsoon patterns, resulting in irregular rainfall, droughts, and floods, affecting agriculture and water availability.
- **3. Sea-level rise:** Coastal states will face the threat of sea-level rise, leading to saltwater intrusion, coastal erosion, and increased vulnerability to storm surges.

The Himalayan states will witness significant effects due to glacier melt, while coastal states will face challenges from sea-level rise and coastal erosion.

### Answer:

Climate change is a pressing global challenge with farreaching implications. India, as one of the most populous and climate-sensitive countries, is particularly vulnerable to its impacts. The effects of climate change are expected to vary across different regions, including the Himalayan and coastal states of India.

## Impact of Climate Change on India:

- 1. **Rising Temperatures:** Increasing temperatures can lead to heatwaves, affecting agriculture, human health, and water resources.
- **2. Erratic Monsoons:** Changes in monsoon patterns can impact agriculture, water availability, and overall economic activities.
- 3. Sea Level Rise: Coastal areas, including major cities like Mumbai and Kolkata, face the risk of inundation due to rising sea levels.
- **4. Glacial Melting:** The Himalayan glaciers are melting, posing water scarcity and related challenges in the long term.
- **5. Extreme Events:** India will experience more frequent and intense extreme weather events like cyclones, floods, and droughts.

## Impact on Himalayan and Coastal States:

- 1. Himalayan States: Melting glaciers can lead to increased water flow initially, but long-term water scarcity is a significant concern. Landslides and flash floods may also intensify.
- 2. Coastal States: Rising sea levels threaten the loss of land and infrastructure, leading to displacement and economic losses. Increased cyclonic activities pose risks to coastal communities.

Climate change's impacts on India are diverse and challenging. The Himalayan and coastal states face specific vulnerabilities, necessitating robust adaptation and mitigation strategies. International cooperation and collective efforts are crucial to tackle the global problem of climate change and safeguard the future of the planet and its inhabitants.

Q18. On December 2004, tsunami brought havoc on fourteen countries including India. Discuss the factors responsible for occurrence of the tsunami and its effects on life and economy. In the light of the guidelines of NDMA (2010), describe the mechanisms for preparedness to reduce the risk during such events.

(250 words) [15]

## Approach to question:

Factors responsible for the occurrence of the 2004 tsunami and its effects on life and economy:

- Underwater earthquake: The tsunami was triggered by a powerful undersea earthquake off the coast of Sumatra, Indonesia, resulting from tectonic plate movements.
- **2. Subduction zone:** The earthquake occurred in a subduction zone, where one tectonic plate is forced beneath another, causing a sudden displacement of water.

### Effects on life and economy:

**1. Loss of life:** The tsunami caused extensive loss of life, with thousands of people killed, injured,

- or displaced. Coastal communities were particularly vulnerable.
- **2. Infrastructure damage:** Coastal infrastructure, including homes, buildings, and transportation systems suffered severe damage, disrupting livelihoods and economic activities.

## Mechanisms for preparedness as per NDMA (2010) guidelines:

- 1. Early warning systems: Implementing robust early warning systems that can quickly detect and alert coastal communities about impending tsunamis, enabling timely evacuation and preparedness.
- 2. Risk assessment and mapping: Conducting comprehensive risk assessments and mapping vulnerable areas prone to tsunamis. This information helps in developing evacuation plans and identifying critical infrastructure that requires protection.

The NDMA guidelines emphasize the importance of early warning systems, risk assessment, capacity building, public awareness, and inter-agency coordination to enhance preparedness and reduce the risk associated with tsunamis. These mechanisms are crucial in saving lives, minimizing damage, and facilitating swift recovery during such catastrophic events.

#### Answer:

The devastating tsunami of December 2004 affected fourteen countries, including India, causing widespread destruction and loss of life. Understanding the factors behind tsunamis and their effects is crucial for preparedness and risk reduction.

## **Factors Responsible for Tsunami Occurrence:**

- **1. Underwater Earthquake:** Most tsunamis are triggered by powerful undersea earthquakes that displace large volumes of water.
- **2. Subduction Zones:** Subduction of tectonic plates can cause sudden vertical movement of the ocean floor, leading to tsunami formation.
- **3. Landslides:** Underwater landslides, volcanic eruptions, or asteroid impacts can also generate tsunamis.

#### **Effects on Life and Economy:**

- 1. Loss of Life and Property: Tsunamis cause massive destruction to coastal communities, resulting in loss of life, infrastructure, and livelihoods.
- **2. Economic Impact:** The loss of homes, businesses, and infrastructure leads to significant economic losses and hampers recovery.

## Mechanisms for Preparedness as per NDMA Guidelines (2010):

**1. Early Warning Systems:** Implementing advanced warning systems to detect tsunamis and issue timely alerts to coastal communities.

- Risk Assessment and Mapping: Identifying vulnerable areas and developing hazard maps to guide evacuation plans.
- Capacity Building: Enhancing the capabilities of disaster response agencies and conducting regular drills for efficient response.
- 4. **Public Awareness:** Educating coastal communities about tsunami risks and preparedness measures to ensure a swift and coordinated response during emergencies.

Understanding the factors behind tsunamis, their impact on life and economy, and adopting the guidelines of the National Disaster Management Authority (NDMA) can significantly enhance preparedness, reduce risk, and mitigate the devastating effects of tsunamis in the future.

Q19. Mob violence is emerging as a serious law and order problem in India. By giving suitable examples, analyze the causes and consequences of such violence.

(250 words) [15]

## Approach to question:

Mob violence is indeed emerging as a serious law and order problem in India. The causes and consequences of such violence can be analyzed as follows:

#### Causes:

- Communal tensions: Deep-rooted communal tensions can fuel mob violence, often triggered by rumors or incidents that incite religious or sectarian animosity.
- **2. Political manipulation:** Unscrupulous political elements may exploit social divisions and mobilize mobs for their own interests, leading to violence.

### Consequences:

- 1. Loss of life and injuries: Mob violence often results in the loss of innocent lives and severe injuries, leading to immense human suffering.
- **2. Destruction of property:** Public and private property is frequently targeted and vandalized during mob violence, causing economic losses and disrupting livelihoods.

The 2015 Dadri lynching in Uttar Pradesh, where a man was killed on suspicion of consuming beef, highlighted the dangerous consequences of mob vigilantism. The 2018 protests in several states against the release of the film "Padmaavat" turned violent, causing destruction and disruptions.

#### Answer:

Mob violence has become a grave law and order issue in India, characterized by the involvement of a large group of people in violent activities. The causes and consequences of such violence are multifaceted and demand careful analysis.

#### Causes of Mob Violence:

- **1. Communal Tensions:** Communal and religious differences can lead to mob violence, fueled by rumors and misinformation.
- **2. Lynchings:** Lynchings driven by rumors of child abduction or cow slaughter have resulted in tragic consequences.
- **3. Political Manipulation:** Mob violence can be instigated and fueled by political interests for gaining control or creating unrest.
- **4. Weak Law Enforcement:** Perceived inefficiency of law enforcement agencies may embolden mobs to take the law into their own hands.
- **5. Social Media:** False information and rumors spread rapidly on social media, exacerbating mob violence.

### Consequences of Mob Violence:

- 1. Loss of Lives and Property: Mob violence leads to casualties, loss of property, and destruction of public infrastructure.
- **Erosion of Rule of Law:** Mob violence undermines the authority of the state and the rule of law.
- **Social Polarization:** Such violence deepens social divides and exacerbates communal tensions.
- **4. Fear and Insecurity:** Mob violence instills fear and insecurity among vulnerable communities.

**Example:** The lynching of Akhlaq in Dadri, Uttar Pradesh, in 2015, on suspicion of cow slaughter, exemplifies the dangerous consequences of mob violence in India.

Addressing the causes of mob violence requires concerted efforts from society, government, and law enforcement agencies. Creating awareness, strengthening law enforcement, and promoting social harmony are essential to curb the menace of mob violence and uphold the principles of justice and rule of law.

Q20. The scourge of terrorism is a grave challenge to national security. What solution do you suggest to curb this growing menace? What are the major sources of terrorist funding?

(250 words) [15]

## Approach to question:

To curb the menace of terrorism, the following solutions can be implemented:

- 1. Strong intelligence and security measures:
  Strengthening intelligence agencies and improving coordination among security forces to gather timely and accurate information about potential threats and take preemptive action.
- 2. International cooperation: Enhancing cooperation with other nations to share intelligence, exchange best practices, and coordinate efforts to combat terrorism on a global scale.

## Major sources of terrorist funding:

- 1. State sponsorship: Some states have been accused of providing financial and logistical support to terrorist organizations, using them as proxies to further their own political goals.
- Criminal activities: Terrorist groups often engage in various criminal activities such as drug trafficking, arms smuggling, kidnapping for ransom, and extortion to generate funds for their operations.

To effectively combat terrorism, it is crucial to adopt a comprehensive approach that includes intelligence sharing, robust legal measures, international cooperation, countering radicalization, and targeting the sources of terrorist funding. By addressing these aspects, nations can work towards mitigating the threat posed by terrorism and ensuring national security.

#### Answer:

Terrorism poses a significant threat to national security, affecting peace and stability worldwide. Addressing this menace requires a comprehensive approach involving international cooperation, intelligence sharing, and financial measures.

### **Solutions to Curb Terrorism:**

- **1. International Cooperation:** Strengthening cooperation among nations to combat terrorism through intelligence sharing and joint operations.
- **2. De-radicalization Programs:** Implementing deradicalization initiatives to counter extremist ideologies and prevent radicalization.

- **3. Cybersecurity Measures:** Enhancing cybersecurity to prevent terrorist use of the internet for propaganda and recruitment.
- **4. Effective Border Control:** Strengthening border security to prevent illegal movement of terrorists and weapons.
- **5. Counter-Terrorism Legislation:** Enacting robust counter-terrorism laws to prosecute terrorists and their supporters effectively.

## **Major Sources of Terrorist Funding:**

- **1. State Sponsors:** Some countries provide financial and logistical support to terrorist organizations to further their political agendas.
- Criminal Activities: Terrorist groups engage in illicit activities such as drug trafficking, smuggling, and extortion to raise funds.
- 3. Charitable Donations: Some legitimate charitable donations may be diverted to fund terrorist activities.
- 4. **Kidnapping and Ransom:** Terrorists resort to kidnapping for ransom, a major source of funding for their operations.

Combating terrorism requires a multifaceted approach involving international collaboration, intelligence sharing, and stringent financial measures to cut off terrorist funding. A concerted effort by the global community is essential to root out this growing menace and ensure a safer world for all.