



APTI PLUS

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CREATING CIVIL SERVANTS FOR THE NATION

OPSC OAS MAINS EXAMINATION ANSWERS 2023

GS-I

OCS (MAIN) 2023 SOLVED PAPERS

GS I - 2023

GROUP A

1. Analyze the cultural achievements of Mahameghavahana Kharavela.

Introduction:

Kharavela, the renowned third ruler of the Mahameghavahana dynasty (around the 2nd century BCE), left an enduring legacy in ancient India. His reign in Kalinga, present-day Odisha, is celebrated for remarkable achievements in culture, architecture, and military prowess.

Body:

1. Patronage of Art and Culture:

- Kharavela also was a **great patron of music and dance**. He revived and encouraged a number of the traditional arts which had an important influence on Kalinga culture.
- The interest of Kharavela in performing arts comes from the references in the **Hathigumpha inscription**, mentioning his efforts in organizing musical performances and festivals.

2. Architectural Contributions:

- Kharavela saw the development of architecture in all its splendour, especially as evidenced in the **rock-cut caves of Udayagiri and Khandagiri**, near Bhubaneswar.
- These caves are sculpted for the religious and artistic use of Jain monks and features **elaborate carvings, decorative facades and inscriptions**.
- The large **Hathigumpha inscription on the hill of Udayagiri** is in size and is also an overwhelming record of his eminence.

3. Promotion of Religious Tolerance:

- While Kharavela was an ardent Jain, at the same time he worked for inclusiveness of all religions, supporting various religions, both **Hindu and Buddhist**, in favour of a culture of mutual respect and **co-existence of spiritually different peoples**, which saw the flourishing of many kinds of cultural expressions.

4. Legacy in Literature and Inscriptions:

- Although not so many literary works of his court have been preserved, one can still find an invaluable literary work in the Hathigumpha inscription, which was written in **Brahmi script** in combination with **Prakrit (a language of idioms borrowed from Tamil language)** and describes, to a certain extent, the political and cultural activities of that time.

Conclusion:

Kharavela's cultural achievements laid the foundations for the flourishing art and spiritual culture of Odisha. By **encouraging arts, architecture, and religious unity**, he created a legacy that survived throughout his lifetime and influenced generations in the following years. He is rightly regarded as a **golden age in the culture of ancient Kalinga**.

2. Discuss the main principles of Alekha or Mahima Dharma.

Introduction:

Mahima Dharma, also known as Alekha Dharma or Mahima Panth, is a **monotheistic religious** movement that originated in **19th-century Odisha** under the guidance of Mahima Swami. It promotes the worship of the formless, attributeless Supreme God called **Alekha or Alakh Niranjan**. Deeply rooted in Bhakti traditions, Mahima Dharma emerged as a socioreligious reform movement, challenging orthodoxy, caste discrimination, idol worship, and ritualism.

Body:

Principle	Description
Belief in One Formless God – Alekha	Mahima Dharma centers around the belief in a single, omnipresent, formless, and attributeless God called Alekha or Alakh Niranjan . This divine principle transcends all anthropomorphic forms and religious boundaries.
Rejection of Idol Worship and Ritualism	Idol worship, priesthood, and ritualism are strictly prohibited. Emphasis is laid on inner spiritual realization rather than external religious practices. Aligns with nirguna bhakti movements.
Social Equality and Rejection of Caste	Strong opposition to the caste system . Followers included both Brahman and non-Brahman individuals, with a focus on spiritual inclusivity and egalitarianism. Comparable to the Dalit Buddhist movement .
Strict Ethical Code and Discipline	Devotees must follow a high moral code, which includes: - No meat, alcohol, or intoxicants - No adultery or violence - Food and water before sunset - Thrice daily Sarana/Darsana (surrender to Alekha)
Monastic Order and Renunciation	A monastic community exists similar to Buddhist sanghas. Monks must practice: - Poverty and celibacy - Constant travel - No sleeping in the same place two nights in a row or eating twice from the same house daily – promoting non-attachment .
Devotional Expression Through Poetry and Song	Bhima Bhoi , a blind tribal poet and disciple of Mahima Swami, spread the Dharma through devotional poetry. His works centered on divine love, compassion, and liberation from suffering.
Opposition to Brahmanical Authority and State Control	The movement resisted priestly authority and state-sponsored religious institutions , criticizing dominant cults like the Jagannath tradition , often through iconoclastic protests .

Conclusion:

Mahima Dharma, through its core principles of **monotheism, social equality, non-ritualistic devotion, and ethical asceticism**, presented a thoughtful spiritual and social reform in 19th-century Odisha. By emphasizing the worship of a formless divine and rejecting caste and idolatry, it laid the foundation for an inclusive religious tradition that resonated with the marginalized and challenged entrenched hierarchies, marking it as both a spiritual awakening and a sociocultural revolution.

3. What role did the INA trials play in facilitating the process of Indian Independence?

Introduction:

The Indian National Army trials (also known as the INA trials and the Red Fort trials) was the British Indian trial by court-martial of several officers of the Indian National Army (INA) between **November 1945 and May 1946**, on various charges of **treason, torture, murder and abetment to murder**, during the **Second World War**.

These trials highlighted the contributions of INA soldiers under **Subhas Chandra Bose**, who fought against British colonial rule. The trials stirred widespread nationalist sentiment across India, uniting diverse communities in the fight for independence.



Body:

Role of INA trials in Indian Independence:

Theme	Description	Example
National Unity and Symbolism	INA trials showcased unity among Hindu, Muslim, and Sikh officers (Prem Kumar Sehgal, Shah Nawaz Khan, and Gurbaksh Singh Dhillon) against the British.	Symbolized a collective Indian identity transcending communal divisions, rallying support for independence.
Catalyst for Mass Mobilization	The trials sparked widespread protests, especially in cities like Calcutta, involving students and workers.	Congress used the public outrage to rally support for the INA and energize the independence movement.
Legal and Moral Victory	INA Defence Committee with leaders like Bhulabhai Desai and Jawaharlal Nehru provided a strong legal defense.	Despite convictions, the trials exposed the moral bankruptcy of colonial rule, eroding British legitimacy.
Inspiration for Armed Forces	The INA inspired dissent within British Indian forces, contributing to erosion of loyalty.	The 1946 Royal Indian Navy mutiny was partly influenced by the INA, signaling growing unrest among soldiers.
Political Leverage	The Congress utilized the trials' momentum to demand British withdrawal.	Widespread support for INA officers helped Congress intensify its push for immediate independence.

Conclusion:

The Indian National Army played an important role in India's fight for independence. It showed that **India's freedom could not be taken lightly by the British, and that the people of India were ready to stand up for their rights.** Subhas Chandra Bose's leadership and the sacrifices of INA soldiers showed that India's fight for freedom was about more than just a **political struggle** — it was about the hearts and minds of its people.

4. Give an outline of the Swadeshi Movement in Bengal between 1905 to 1908. Critically analyze its impact on the freedom struggle.

Introduction:

The Swadeshi movement was a self-sufficiency movement that was part of the Indian independence movement and contributed to the development of Indian nationalism. The **Movement in Bengal (1905–1908)** was a pivotal phase in India's struggle for independence. Triggered by the British decision to partition Bengal in 1905, the movement marked a shift from moderate to assertive nationalism and emphasized indigenous enterprise, boycott of foreign goods, and national education.

Body:

Background and Causes:

- **Partition of Bengal (1905):** Announced by Lord Curzon, it aimed to divide Bengal on communal lines, ostensibly for administrative efficiency, but actually to weaken the nationalist movement.
- **Public Outrage:** The decision was seen as a divide-and-rule tactic. It triggered widespread resentment among Bengalis, uniting Hindus and Muslims in opposition.

Main Features of the Movement:

- **Boycott of Foreign Goods:** People refused to buy British-made products, especially cloth; massive public burnings of foreign goods were held.
- **Promotion of Swadeshi Goods:** Indigenous products and industries were encouraged to achieve economic self-reliance.
- **National Education:** Institutions like the National Council of Education were established to provide education free from colonial influence.
- **Cultural Nationalism:** Literature, theatre, and music were used to evoke patriotic sentiment; Rabindranath Tagore composed songs like *Amar Shonar Bangla*.
- **Political Mobilization:** The movement saw participation from students, women, and workers. Leaders like Bal Gangadhar Tilak, Bipin Chandra Pal, Aurobindo Ghosh, and Lala Lajpat Rai championed its cause.
- **Use of Passive Resistance:** Though non-violent, the movement was assertive and challenged British economic and political domination.

Critical Analysis of its Impact:

Strengths	Limitations
<i>National Awakening: Created mass political consciousness beyond the elite classes.</i>	Limited Geographical Reach: Largely confined to Bengal and urban areas.
<i>Economic Nationalism: Laid the foundation for indigenous industries and a self-reliant economy.</i>	Lack of Sustained Organisation: Absence of a strong organisational structure led to its decline after 1908.
<i>Political Shift: Marked the decline of moderate politics and rise of the Extremist wing in the Indian National Congress.</i>	Repressive Measures by the British: Widespread arrests, censorship, and banning of organisations stifled the movement.
<i>Social Inclusiveness: Mobilized diverse sections of society including women and students.</i>	Communal Divisions: Despite initial unity, communal tensions resurfaced, especially after the annulment of the partition in 1911.

Conclusion:

The Swadeshi Movement of 1905–1908 was a landmark in India's freedom struggle. While it did not achieve immediate political goals, it instilled the values of self-reliance, nationalism, and mass participation. It served as a training ground for future movements and reshaped the nature of India's resistance against colonial rule.

5. Differentiate between 'Generative city' and 'Smart city'. Describe the feasibility of the best smart city of Odisha.

Introduction:

Urbanisation has accelerated the transformation of Indian cities. Two emerging models of urban development are the '*Generative City*' and the '*Smart City*'. While both aim for sustainable urban growth, they differ in approach and outcomes. Odisha has been proactive in adopting smart city initiatives, and Bhubaneswar has emerged as its top-performing city under the Smart City Mission.

Body:

Difference between Generative City and Smart City:

Aspect	Generative City	Smart City
Core Philosophy	Focuses on human-centric development and inclusive growth	Focuses on technology-driven infrastructure and service delivery
Approach	Organic, context-sensitive, culture-rooted urban development	Data-based, sensor-integrated, and tech-enabled solutions
Goals	Generates opportunities, fosters collaboration, and builds community resilience	Enhances efficiency, governance, mobility, and public services
Governance	Bottom-up planning, public engagement and adaptive policy	Largely top-down, project-driven with measurable indicators
Outcomes Expected	Empowerment of citizens, co-creation, and sustained livelihood ecosystems	Improved infrastructure, seamless connectivity, and digitised public access
Example Focus	Revitalising informal economies, integrating nature, and socio-cultural assets	Establishing command centres, smart traffic, e-governance portals, etc.

Feasibility of Bhubaneswar as the Best Smart City of Odisha:

1. Scoring and Performance:

- Bhubaneswar secured the highest score of 70% among Odisha's proposed cities for the Smart City Mission.
- It was also selected in the first round of the national Smart City Challenge in 2016, topping the all-India list.

2. Infrastructure Readiness:

- The city has made significant progress in e-governance, mobility (MoBus), and integrated traffic systems.
- Implementation of the Bhubaneswar Operations Centre (BOC) has strengthened urban monitoring and emergency response.

3. Inclusivity and Planning:

- Bhubaneswar's Smart City Plan incorporated child-friendly and age-sensitive design principles.
- It focuses on public spaces, pedestrian safety, and inclusive urban design—closer to generative ideals.

4. Economic Potential:

- Bhubaneswar hosts educational hubs, IT parks, and growing real estate, ensuring financial sustainability of smart projects.
- The city's urban mobility plan promotes green transport, cycling tracks, and EV readiness.

5. Cultural and Environmental Balance:

- Being a historic city, Bhubaneswar integrates cultural heritage preservation within its smart development framework.
- It also includes climate-sensitive projects like rainwater harvesting and green buildings.

Conclusion:

Bhubaneswar reflects a convergence of *smart* and *generative* city models by using technology to empower communities and preserve cultural identity. Its top score among Odisha cities underlines its feasibility and

commitment to sustainable urban development. For future urban transformation, other cities must blend efficiency with inclusivity, aligning with both smart and generative paradigms.

6. "Economy of Odisha reflects a paradoxical situation." Briefly discuss the reasons for this and suggest some important steps that can be taken for proper development of the State.

Introduction:

The economy of Odisha presents a paradox. Despite being richly endowed with natural resources and having witnessed industrial growth in sectors like mining, metallurgy, and power, the state still lags behind the national average in per capita income and human development indicators. This contradiction points to structural issues and uneven development patterns that need urgent policy attention.

Body:

Reasons for the Paradox:

- **Resource-rich, yet poor outcomes:** Odisha is one of India's richest states in terms of minerals like coal, bauxite, and iron ore. Yet, its per capita income remains significantly lower—12.4% below the national average as per the latest Economic Survey (2024–25).
- **Low Per Capita Income:** As per recent reports, Odisha's per capita income remains 12.4% lower than the national average, indicating an uneven distribution of economic gains.
- **Backward Agriculture Sector:** Over 60% of Odisha's population is dependent on agriculture, but productivity remains low due to lack of irrigation, poor market access, and frequent natural calamities.
- **Industrial Enclaves without Linkages:** Large industrial units function in isolation without creating meaningful backward and forward linkages with the local economy, limiting employment generation.
- **Regional Disparities:** Coastal districts have progressed relatively better while the western and southern tribal-dominated districts suffer from poor infrastructure, low literacy, and poverty.

Steps for Proper Development:

- **Inclusive Industrial Policy:** Encourage local entrepreneurship and ensure industries invest in local skill development and MSME linkages to boost employment and local economic activity.
- **Agricultural Reform:** Increase irrigation coverage, promote crop diversification, support Farmer Producer Organizations (FPOs), and ensure timely procurement and market access.
- **Balanced Regional Planning:** Focus infrastructure, education, and health investment in backward regions to bridge the intra-state development gap.
- **Social Sector Focus:** Strengthen public education and healthcare systems, especially in rural and tribal areas, to improve human development indicators.
- **Tourism and Handicrafts Promotion:** Develop heritage, eco, and tribal tourism circuits; promote Odisha's handloom and handicraft industries through branding, training, and global marketing.
- **Disaster-Resilient Development:** Adopt climate-smart agriculture and infrastructure, given Odisha's frequent exposure to cyclones and floods.

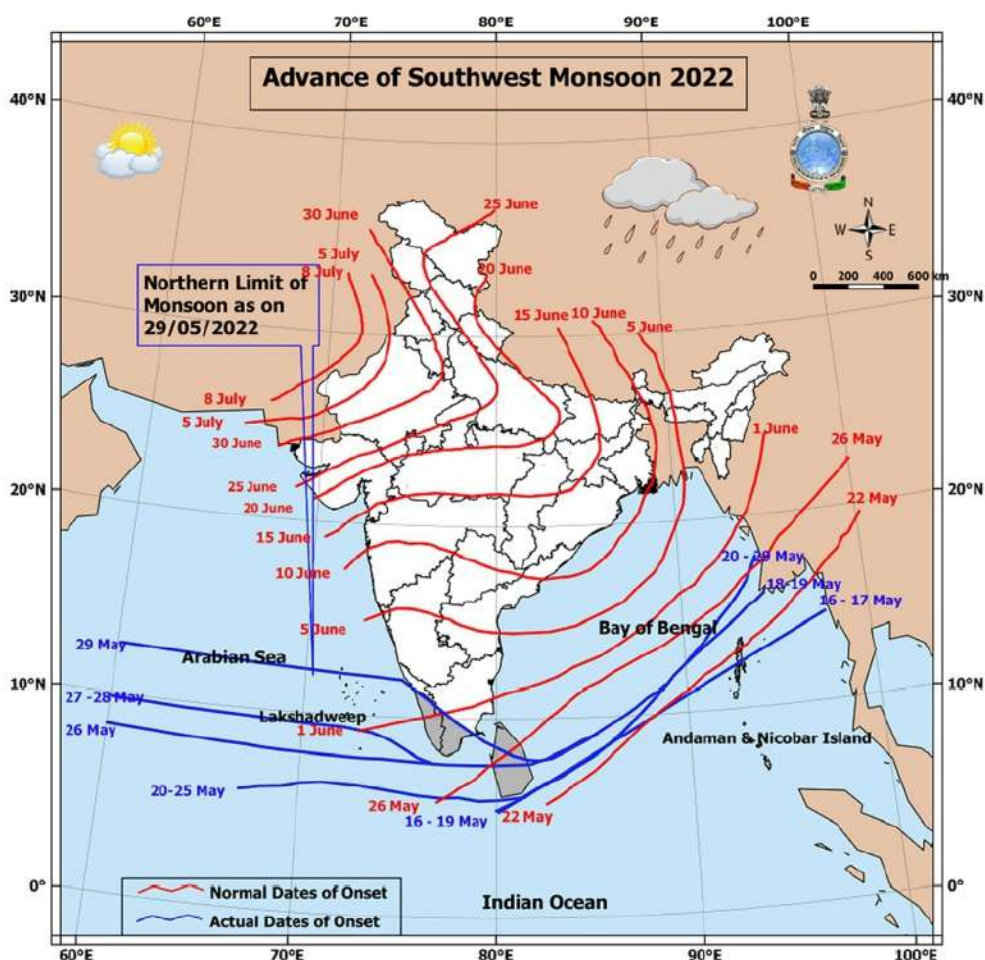
Conclusion:

Odisha's economic paradox highlights the gap between potential and performance. Unlocking this potential requires inclusive, regionally balanced, and human-centric policies. Only through equitable resource use, sustained investment in social infrastructure, and empowerment of local communities can Odisha transform its paradox into progress.

7. Chennai and Mangalore approximately lie on the same latitude, yet both places receive different amounts of rainfall in different months. Why? How do you foresee the role of the Arctic Sea in India's monsoon system? Discuss.

Introduction:

Chennai and Mangalore, though located around the 13°N latitude, experience significantly different rainfall patterns due to variations in physiographic features, monsoonal wind directions, and local geographical conditions.



Body:

Reasons for Rainfall Variations Between Chennai and Mangalore

Factor	Chennai (East Coast)	Mangalore (West Coast)
Monsoon Winds	Lies in the rain-shadow region of the Western Ghats; receives less SW monsoon rainfall.	Lies on the windward side of the Western Ghats; receives heavy SW monsoon rainfall (June to Sept).
Monsoon Type	Receives most rainfall from the Northeast monsoon (Oct-Dec).	Receives rainfall from the Southwest monsoon (June-Sept).
Western Ghats	Mountains block SW winds, reducing rainfall.	Mountains enhance orographic rainfall.
Cyclonic Activity	Receives post-monsoon cyclonic rainfall from Bay of Bengal.	Less affected by cyclonic storms.

Role of the Arctic Sea in India's Monsoon System

Recent climate research and global circulation models (WMO, IPCC AR6, Indian Institute of Tropical Meteorology) indicate that **Arctic sea ice melt** can significantly influence tropical monsoons, including **India's southwest monsoon**.

1. Jet Stream Alteration

- Melting of Arctic sea ice **alters the polar jet stream**, which in turn affects **upper atmospheric circulation patterns**, possibly weakening or delaying the Indian monsoon.

2. Impact on ENSO and IOD

- Arctic warming may intensify **ENSO (El Niño Southern Oscillation)** and **IOD (Indian Ocean Dipole)** variability. These ocean-atmosphere systems are **key modulators of Indian monsoon performance**.

3. Pole-Equator Temperature Gradient

- Arctic amplification reduces the **temperature gradient between the equator and poles**, which can lead to **weaker monsoon circulations** and altered monsoon rainfall distribution.

4. Long-Term Trends

- IMD and IITM Pune studies have observed **increasing monsoon variability**, possibly linked to **global climate shifts**, including Arctic changes.

Conclusion:

While **latitude** is an important factor, **rainfall distribution** is heavily influenced by **topography**, **wind patterns**, and **ocean-atmosphere interactions**. The role of the **Arctic Sea in India's monsoon system** underscores the **interconnectedness of global climate systems**, highlighting the need for **enhanced climate modeling** and **policy preparedness** for monsoon-dependent sectors like agriculture and water management.

8. Differentiate between 'Strait' and 'Isthmus'. Describe the significance of 'Strait' and 'Isthmus' in international trade.

Introduction:

A strait and an isthmus are contrasting geographical features, both playing significant roles in physical geography and global commerce.

Body:

Difference between Strait and Isthmus:

Feature	Strait	Isthmus
Definition	A narrow body of water connecting two larger water bodies	A narrow strip of land connecting two larger landmasses
Water/Land	Water feature	Land feature
Function	Connects seas or oceans; separates landmasses	Connects landmasses; separates water bodies
Examples	Strait of Hormuz, Palk Strait, Strait of Gibraltar	Isthmus of Panama, Isthmus of Suez

Significance in International Trade:

Importance of Straits:

- **Strategic Maritime Routes:** Straits are vital chokepoints for global shipping. For instance, the Strait of Malacca is one of the busiest shipping lanes, linking the Indian Ocean with the Pacific.
- **Energy Security:** Straits like the Strait of Hormuz are essential for the transport of crude oil. According to the U.S. Energy Information Administration, nearly 20% of global oil passes through it.
- **Reduced Travel Distance:** Straits offer natural shortcuts for ships. The Palk Strait facilitates movement between India and Sri Lanka.
- **Geopolitical Leverage:** Control over strategic straits often translates into geopolitical influence. Countries located near straits have economic and strategic advantages.

Importance of Isthmuses:

- **Land Connectivity:** Isthmuses act as land bridges facilitating trade and cultural exchange. The Isthmus of Panama historically enabled the migration of species and people between North and South America.
- **Artificial Canals for Trade:**
- **Major canals have been constructed across isthmuses to aid navigation:**
 - Panama Canal (across the Isthmus of Panama): Reduces travel between the Atlantic and Pacific Oceans by ~13,000 km.
 - Suez Canal (across the Isthmus of Suez): Links the Mediterranean Sea with the Red Sea, significantly cutting voyage times between Europe and Asia.
- **Economic Zones:** Due to their location, isthmuses often host ports and logistical hubs (e.g., Colón in Panama, Port Said in Egypt), boosting regional economies.

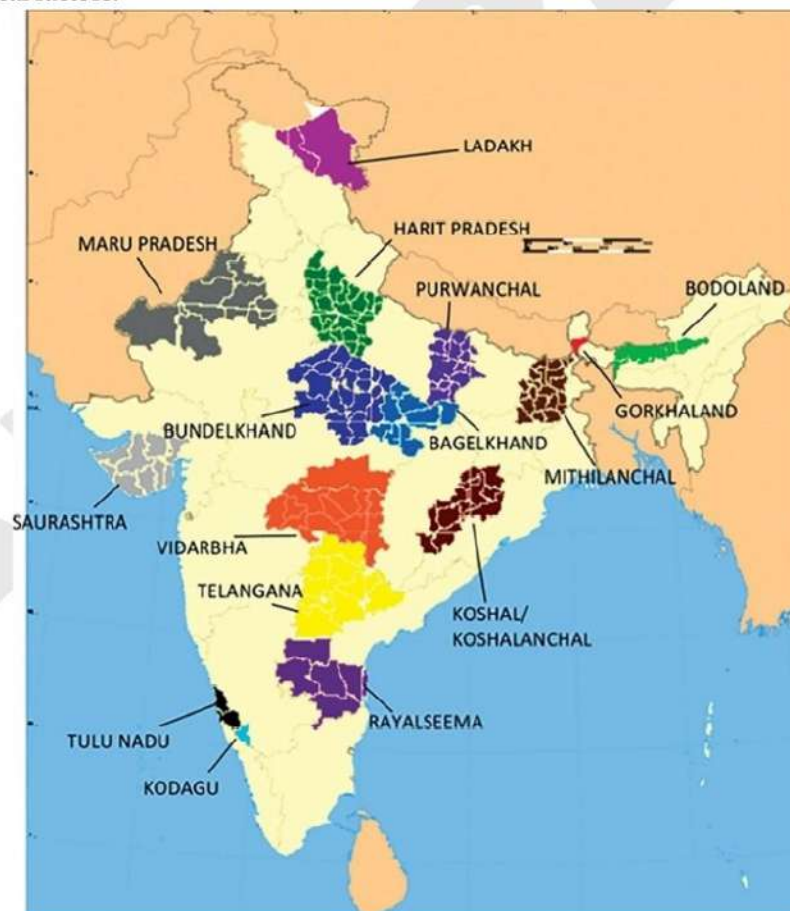
Conclusion:

Straits and isthmuses, while being opposite in physical geography, are equally critical for facilitating international trade and connectivity. Their control, use, and development directly affect global economic flows and maritime geopolitics.

9. Discuss in detail the role of regionalism in shaping social cohesion.

Introduction:

Regionalism in India refers to the strong feelings of loyalty and attachment people have towards their own region or state rather than the country as a whole. It arises due to differences in language, culture, economic interests, or historical factors.



While regional pride can be positive, helping preserve local cultures and traditions, it sometimes leads to conflicts, demands for separate states, or special privileges for certain regions. It creates tension between different states or between states and the central government, affecting national unity. Balancing regional interests with national integration remains a challenge for India.

Body:

Positive Role of Regionalism in Social Cohesion

1. **Strengthening Federalism:** Regionalism promotes a stronger federal structure by encouraging states to assert their rights and seek greater autonomy. (e.g., Pongal in Tamil Nadu, Rath Yatra in Odisha)
2. **Enhanced Political Representation:** Regionalism has given voice to local issues and marginalized communities that national parties may overlook. Regional parties focus on state-specific concerns, ensuring that the unique problems of each region are addressed in the political discourse.
3. **Decentralization of Power:** The rise of regionalism has contributed to the decentralization of power, enabling states to have a greater say in decision-making. **For example, cooperative societies in Kerala and Odisha's Self-Help Groups (SHGs) under Mission Shakti, which empowered over 70 lakh women in 2024, enhanced collective responsibility and mutual support.**
4. **Economic Solidarity:** Regional economic initiatives, like Gujarat's dairy cooperatives and Odisha's Milk Farmers' Cooperative (OMFED), supporting over 5 lakh farmers, unite communities through shared economic goals, reducing inequalities and promoting cohesion.

Negative Impact of Regionalism on Social Cohesion

1. **Threat to National Unity:** Extreme regionalism can foster divisive sentiments, leading to conflicts between states or between regional and national interests. When regional pride turns into regional superiority or exclusion, it can weaken the sense of national unity and create friction between different parts of the country. **For example: Gorkhaland, or a separate Koshal state in Odisha, straining national unity.**
2. **Rise of Secessionist Movements:** In some cases, intense regionalism has led to demands for greater autonomy, special status, or even secession. For instance, movements in Punjab, Kashmir, and the North-East have sometimes taken violent forms, challenging the territorial integrity and sovereignty of India.
3. **Political Fragmentation and Instability:** The proliferation of regional parties often leads to fragmented electoral outcomes, making it difficult to form stable governments. Coalition politics, while inclusive, can result in frequent political compromises, policy paralysis, and unstable governments due to conflicting regional demands.
4. **Regional Bias and Discrimination:** Regionalism can promote bias, discrimination, or favoritism towards people from one's region, sometimes resulting in the marginalization of outsiders. (e.g., **non-Marathi speakers in Maharashtra or tribal groups like the Kondh in Odisha, weakening inclusive cohesion.**)

Balancing Regionalism:

- **Policy Interventions:** Federal policies like linguistic reorganization (1956) and regional development boards promote inclusive regional identities.
- **Cultural Exchange:** Initiatives like Ek Bharat Shreshtha Bharat implements inter-regional understanding, mitigating conflicts.

Conclusion:

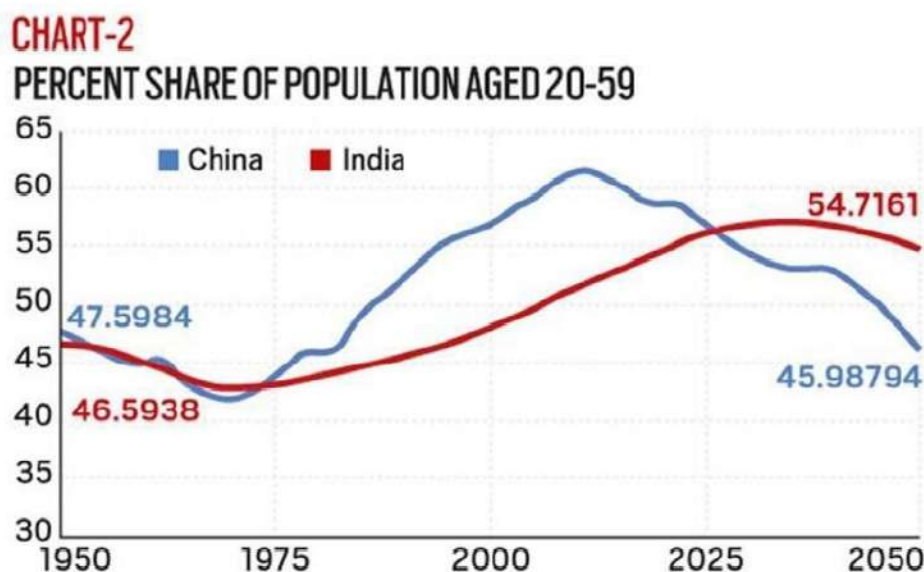
Regionalism, when channeled positively, can enrich India's social fabric by celebrating its diversity and promoting localized development. However, unchecked regionalism poses challenges to national unity and

social cohesion. A balanced approach that respects regional identities while reinforcing national integration is essential for India's harmonious growth.

10. What do you understand by population ageing? Discuss its various dimensions in the context of India.

Introduction:

Population ageing refers to the increasing proportion of elderly individuals (aged 60 and above) in a population due to declining fertility rates and rising life expectancy. In India, with 10.5% of the population (149 million) aged 60+ in 2022, projected to reach 20.8% by 2050, this phenomenon poses multifaceted challenges and opportunities.



Body:

Demographic Dimension: India's fertility rate dropped to 2.0 (2020), below replacement level, while life expectancy rose to 70.8 years (2022). This shift increases the old-age dependency ratio (15.7 in 2021, projected to 31 by 2050), straining working-age support systems.

Economic Dimension: Ageing reduces the working-age population, impacting economic growth. Only 27% of elderly Indians have pension coverage, increasing reliance on informal support. However, initiatives like Atal Pension Yojana aim to enhance financial security, leveraging the elderly's experience for economic contributions.

Social Dimension: Traditional joint families, once a support system, are declining due to urbanization. Elderly isolation is rising, particularly in rural areas (70% of elderly reside). Programs like the National Programme for Health Care of Elderly (NPHCE) promote social integration through community care.

Health Dimension: Ageing increases non-communicable diseases (e.g., diabetes, heart disease), with 75% of elderly reporting ailments (NSS 2018). Healthcare infrastructure lags, but Ayushman Bharat seeks to address this through geriatric care expansion.

Gender Dimension: Women outlive men, comprising 52% of the elderly, yet face higher poverty and neglect. Policies like widow pensions aim to address gender-specific vulnerabilities.

Conclusion:

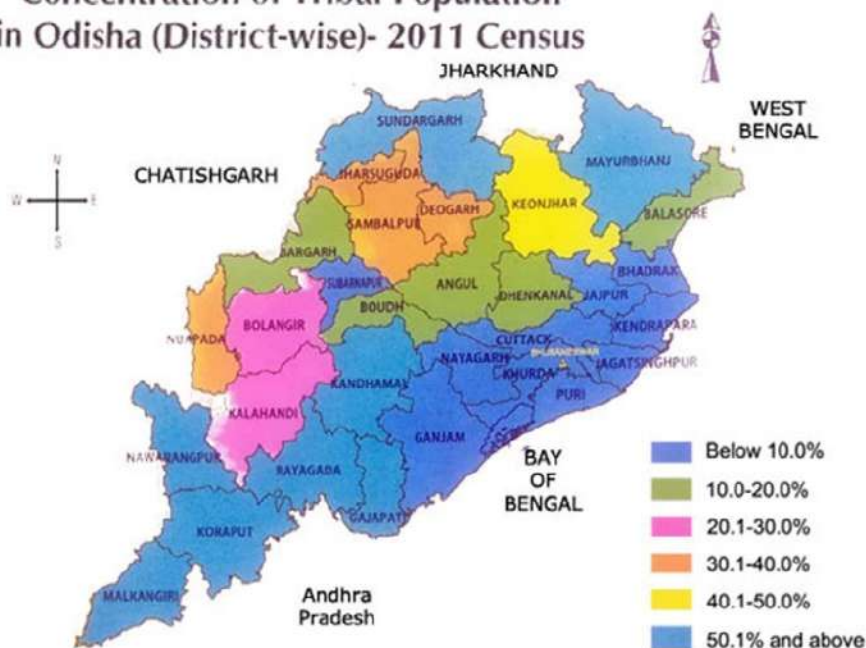
Population ageing in India, driven by demographic shifts, presents economic, social, health, and gender challenges. Addressing these through robust policies, healthcare enhancements, and social security measures can transform ageing into an opportunity for inclusive development.

11. How many types of tribals are there in Odisha? What are the issues and problems of Particularly Vulnerable Tribal Groups?

Introduction:

Odisha, home to a diverse tribal population, hosts 62 Scheduled Tribes, including 13 Particularly Vulnerable Tribal Groups (PVTGs). These PVTGs face unique socio-economic and health challenges, necessitating targeted interventions for their development.

**Concentration of Tribal Population
in Odisha (District-wise)- 2011 Census**



Body:

1. Types of Tribals in Odisha

Category	Details
Total Scheduled Tribes	62 Scheduled Tribes (22.84% of Odisha's population; 9.59 million as per 2011 Census)
Major Tribes	Kondha, Santal, Munda, Oraon
Particularly Vulnerable Tribal Groups (PVTGs)	13 PVTGs identified for pre-agricultural lifestyle, low literacy, and isolated habitats
Names of PVTGs	Bonda, Chuktia Bhunjia, Didayi, Dongria Kondh, Juang, Kharia, Kutia Kondh, Lanja Saora, Lodha, Mankirdia, Paudi Bhuyan, Saora, Birhor

2. Issues and Problems of PVTGs

Issue Category	Description
Geographical Isolation	Remote, forested habitats limit access to healthcare, education, and markets, exacerbating poverty
Health Challenges	High prevalence of genetic disorders (e.g., sickle cell anemia - 3.3%), malnutrition, and communicable diseases due to poor healthcare infrastructure
Resource Encroachment	Encroachment by dominant groups threatens PVTG subsistence-based livelihoods
Socio-Economic Backwardness	Low literacy (female literacy at 41% in 2011), unemployment, and unawareness of rights (e.g., Forest Rights Act - FRA) hinder development
Cultural Erosion	Mainstream integration and deforestation disrupt traditional customs, leading to identity loss

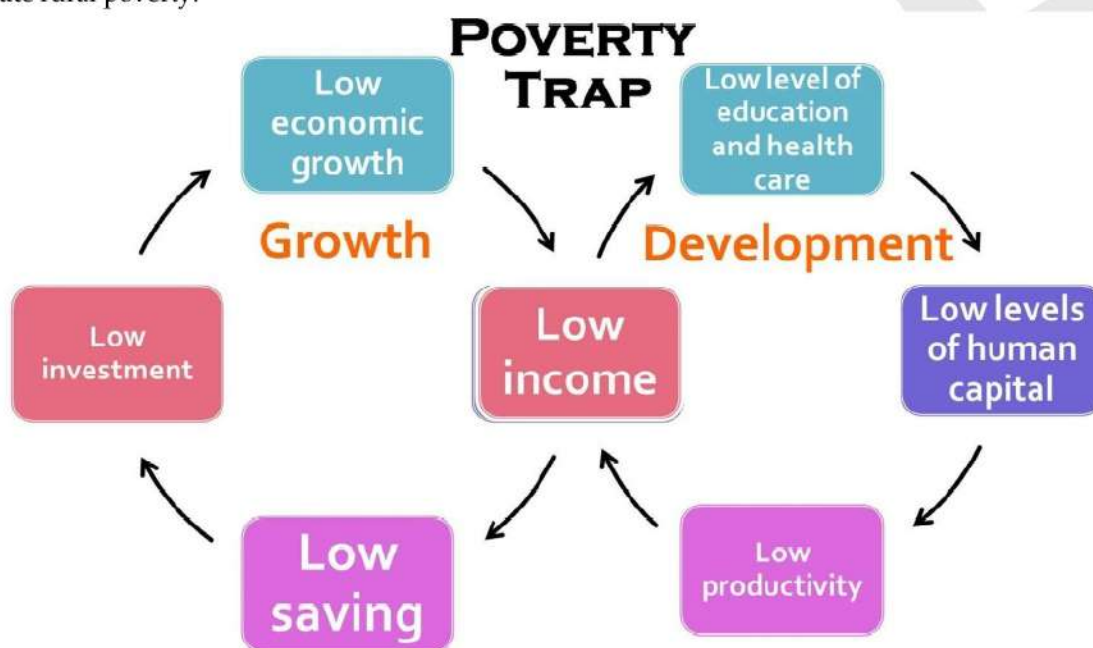
Conclusion:

Odisha's 62 tribes, including 13 PVTGs, enrich its cultural fabric but face severe challenges. Addressing PVTG issues requires improving healthcare, securing land rights, enhancing education, and preserving heritage through schemes like PM-JANMAN and OPELIP for inclusive development.

12. Discuss some important causes of rural poverty. Discuss some of the poverty alleviation programmes which have been launched by the Government of India for the rural poor.

Introduction:

Rural poverty, characterized by low income, limited access to resources, and poor living conditions, remains a pressing challenge in India. Affecting 25.7% of rural households (2019-21, NITI Aayog), it stems from structural and socio-economic factors. The Government of India has launched several programmes to alleviate rural poverty.

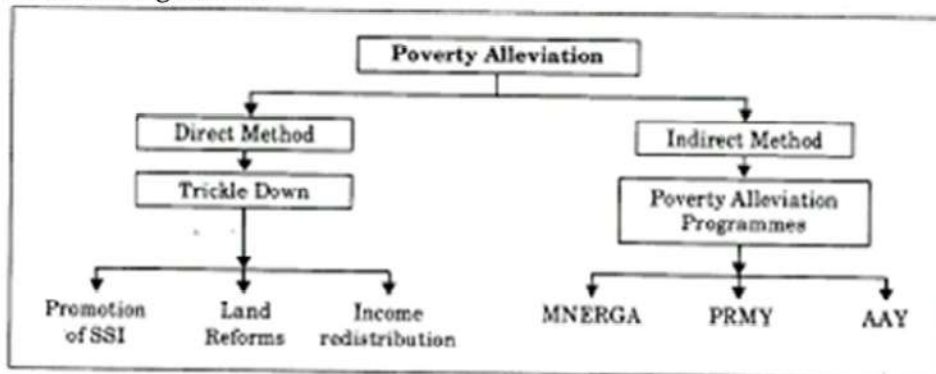


Body:

1. Causes of Rural Poverty

Cause	Details
Agricultural Dependence	Over 60% of rural households rely on agriculture; face low productivity, fragmented landholdings, and climate vulnerabilities (e.g., droughts).
Lack of Education and Skills	Low literacy (67.8% rural literacy, 2011); inadequate skill training limits access to non-farm employment opportunities.
Unemployment and Underemployment	Seasonal agricultural work; lack of rural industries causes income instability and irregular employment.
Social Inequities	Caste-based discrimination and gender disparities limit access to resources, perpetuating poverty.
Inadequate Infrastructure	Poor roads, healthcare, and electrification (30% rural households lacked electricity pre-2014), hindering development.

2. Poverty Alleviation Programmes



Programme	Key Features
MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act)	Guarantees 100 days of wage employment annually; benefited 6 crore rural households in 2023-24.
DAY-NRLM (Deendayal Antyodaya Yojana-National Rural Livelihoods Mission)	Promotes SHGs; empowered 9 crore women (2024) via microfinance and skill development.
PMAY-G (Pradhan Mantri Awaas Yojana-Gramin)	Provided 2.95 crore houses by 2024, improving housing and living standards of rural poor.
NSAP (National Social Assistance Programme)	Offers pensions to elderly, widows, and disabled; covered 3 crore beneficiaries in 2023.

Conclusion:

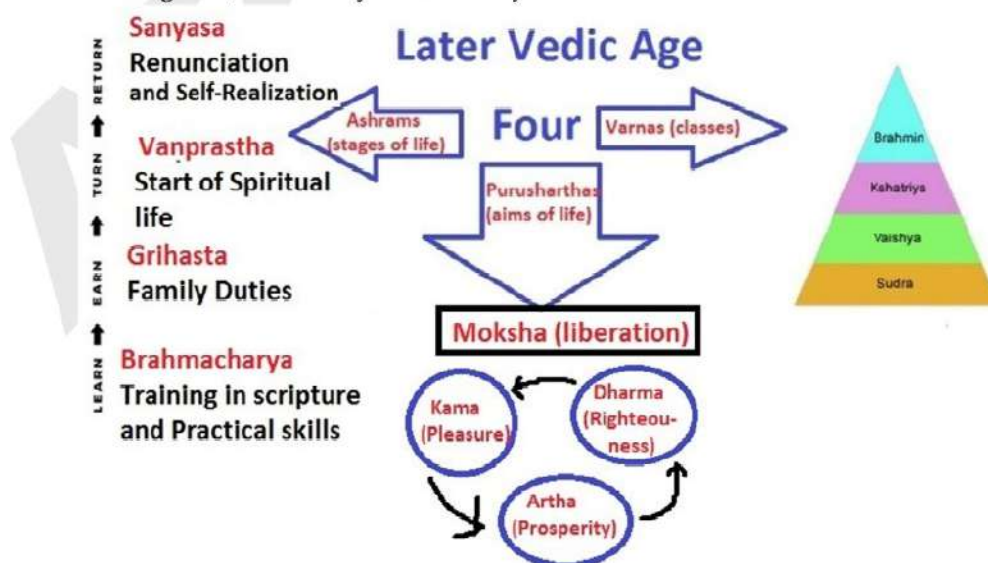
Rural poverty in India arises from agricultural challenges, unemployment, and systemic inequities. Government initiatives like MGNREGA, DAY-NRLM, PMAY-G, and NSAP address these issues by enhancing income, skills, housing, and social security, fostering inclusive rural development.

GROUP B

13. Enumerate the legacy of the early Vedic Aryans.

Introduction:

The early Vedic Aryans (1500-1000 BCE), who settled in the Indo-Gangetic plains, left a profound legacy that shaped India's socio-cultural, religious, and intellectual landscape. Their contributions, primarily documented in the Rigveda, reflect a dynamic society that laid foundational elements of Indian civilization.



Body:

Religious and Philosophical Legacy:

- The early Vedic Aryans developed a polytheistic religion centered on nature deities like **Indra, Agni, and Varuna, with rituals like yajnas (fire sacrifices)**. The Rigveda's hymns articulate spiritual and cosmological ideas, laying the groundwork for later Vedic philosophies.
- **Concepts like Rita (cosmic order) and Karma emerged**, influencing ethical frameworks in Hinduism and subsequent Indian thought.

Literary and Linguistic Legacy:

- The composition of the Rigveda, one of the oldest known texts, marks a monumental literary achievement. **Its 1,028 hymns in Vedic Sanskrit** showcase poetic excellence and oral tradition.
- Vedic Sanskrit became the precursor to classical Sanskrit, shaping India's linguistic evolution and influencing regional languages.

Social and Political Organization:

- The early Vedic society was semi-nomadic, organized into **janas (tribes) led by rajans (chieftains)**. The decentralized structure evolved into more complex polities in the later Vedic period.
- The rudimentary **varna system (Brahmins, Kshatriyas, Vaishyas)** emerged, setting the stage for India's social stratification, though less rigid than later periods.

Economic Contributions:

- The Aryans introduced pastoralism and early agriculture, with cattle as a key measure of wealth. Barter trade and rudimentary crafts like weaving and metallurgy supported economic growth.
- Their agricultural practices, including the use of iron tools by the later Vedic phase, enhanced productivity.

Cultural Practices:

- Vedic rituals, marriage customs, and community gatherings fostered cultural cohesion. Oral transmission of knowledge preserved traditions, influencing India's cultural continuity.
- The emphasis on education through gurukuls laid the foundation for India's learning systems.

Conclusion:

The early Vedic Aryans' legacy encompasses religious thought, linguistic development, social structures, economic practices, and cultural traditions. Their contributions, rooted in the Rigveda, provided a framework for India's spiritual, intellectual, and societal evolution, leaving an enduring impact on Indian civilization.

14. Give an account of the development of science during the Gupta period.

Introduction:

The **Gupta period (circa 320–550 CE)**, often termed the "Golden Age" of ancient India, witnessed remarkable advancements in science, driven by intellectual patronage, cultural stability, and economic prosperity. Contributions in **mathematics, astronomy, medicine, and metallurgy** shaped India's scientific legacy.



Body:

Field	Contributions
1. Mathematics	- Aryabhata: <i>Aryabhatiya</i> (499 CE) introduced the decimal system, concept of zero, and place-value notation. - Brahmagupta: <i>Brahmasphutasiddhanta</i> (628 CE) detailed rules for negative numbers, algebra, and quadratic equations. - Concepts of infinity and approximation of pi (3.1416) enriched mathematical discourse.
2. Astronomy	- Aryabhata: Proposed Earth's axial rotation, calculated solar year (365.258 days), and studied planetary motion. - Varahamihira: <i>Panchasiddhantika</i> synthesized earlier astronomical works; <i>Brihat Samhita</i> included eclipse theories. - Construction of observatories and use of calendars reflected advanced astronomical knowledge.
3. Medicine	- Sushruta Samhita and Charaka Samhita covered surgery, herbal remedies, and diagnostics. - Sushruta pioneered plastic surgery and cataract operations; emphasized hygiene and Ayurveda principles.
4. Metallurgy & Engineering	- The Iron Pillar of Delhi (circa 400 CE) showcases rust-resistant iron technology. - Advanced dams, canals, and urban planning (e.g., Pataliputra) indicate refined engineering skills.
5. Scientific Method	- Use of empirical observation and logical reasoning in mathematical and scientific processes promoted a proto-scientific approach.

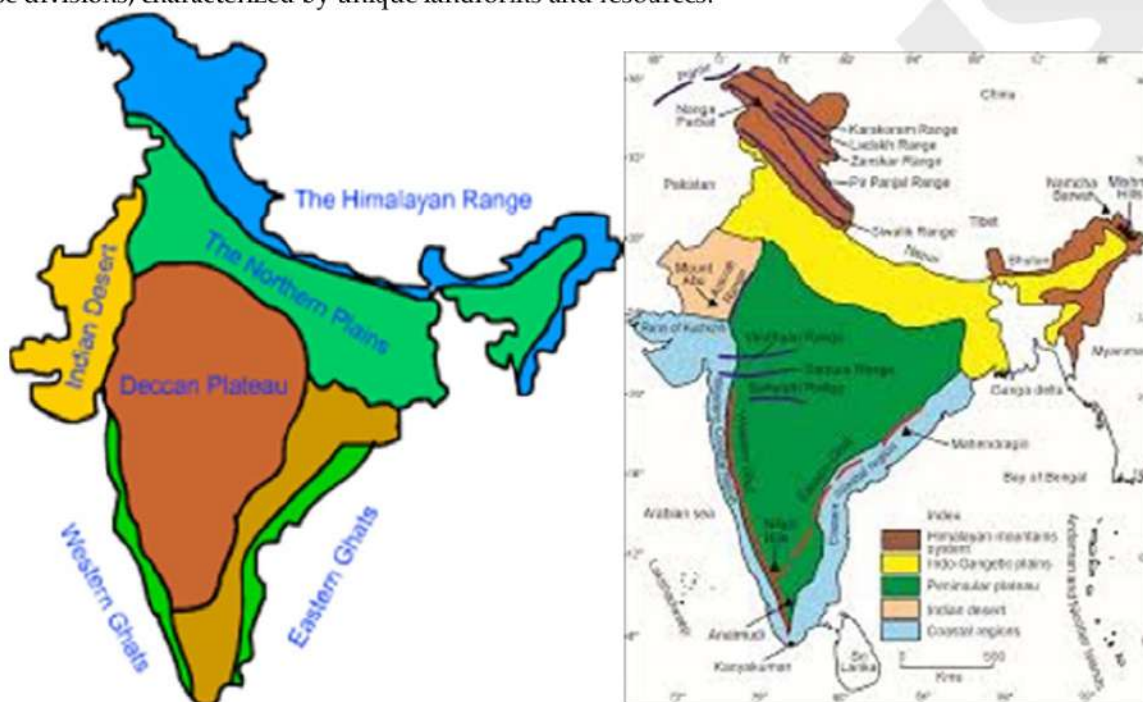
Conclusion:

The Gupta period's advancements in **mathematics, astronomy, medicine, and metallurgy**, led by **Aryabhata and Brahmagupta**, marked a pinnacle of scholarship. These contributions enriched India's heritage and influenced global scientific traditions, underscoring the era's enduring legacy.

15. Divide India into major physiographic divisions and describe the region in which the land of Odisha State is included.

Introduction:

India's diverse physiography is categorized into distinct divisions based on geological and topographical features, shaping its **climate, economy, and culture**. Odisha, located on the eastern coast, falls within one of these divisions, characterized by unique landforms and resources.

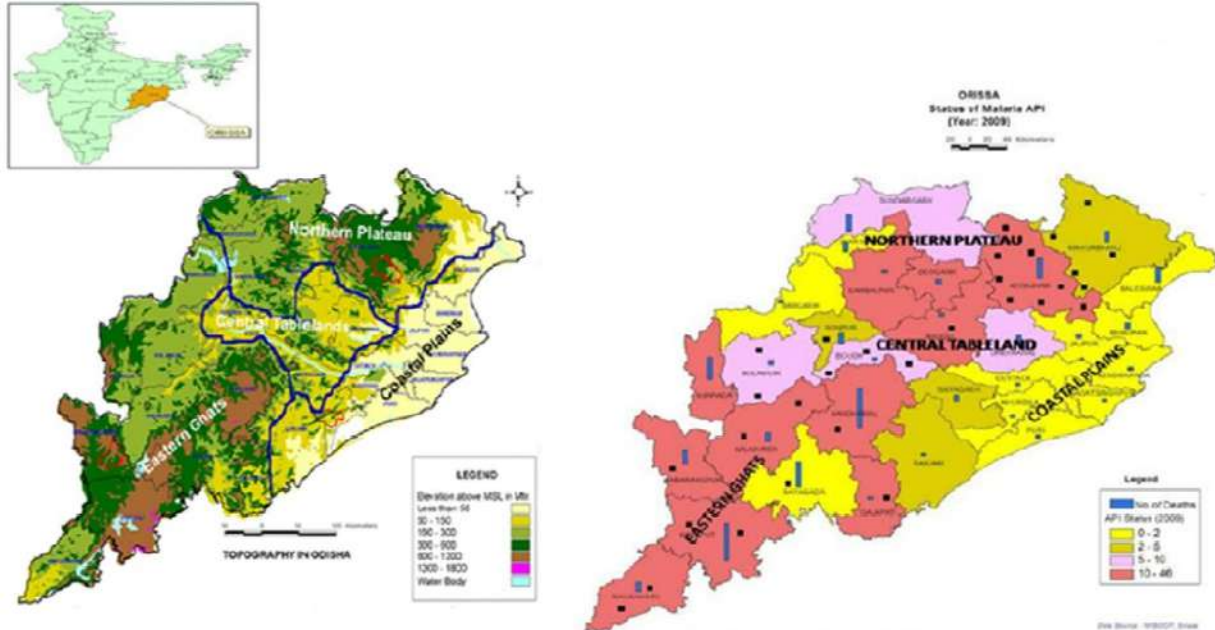


Body:

1. Major Physiographic Divisions of India

Division	Description
Himalayan Mountains	Northern mountain range (Greater, Lesser, Shiwalik); found in states like Jammu & Kashmir; known for high peaks and deep valleys.
Indo-Gangetic Plains	Fertile plains stretching from Punjab to West Bengal; formed by rivers like the Ganga and Brahmaputra; ideal for agriculture.
Peninsular Plateau	Ancient landmass in central and southern India; includes the Deccan Plateau and Central Highlands with various hills and plateaus.
Coastal Plains	Narrow strips along eastern (Coromandel) and western (Konkan-Malabar) coasts; important for trade, agriculture, and fisheries.
Thar Desert	Arid region in Rajasthan with sand dunes, extreme temperatures, and sparse vegetation.
Islands	Includes Andaman & Nicobar Islands (Bay of Bengal) and Lakshadweep (Arabian Sea); known for coral reefs and tropical ecosystems.

2. Physiographic Regions of Odisha



Region/Feature	Description
Physiographic Zones	Odisha lies in the Peninsular Plateau , especially the Eastern Ghats and Coastal Plains .
Eastern Ghats	Covers ~75% of Odisha; includes hills like Mahendragiri (1,501 m), plateaus, valleys; rich in minerals; home to many tribal groups.
Coastal Plains	Formed by the Mahanadi delta ; fertile area supports rice cultivation, fishing, and urban centers like Bhubaneswar and Puri.
Key Characteristics	Features lateritic soils , ~39.3% forest cover (2023); rivers like Mahanadi enhance agriculture and biodiversity (e.g., Chilika Lake).
Significance	Rich mineral resources, fertile farmlands, and a long coastline contribute to Odisha's economic and cultural vitality ; vulnerable to cyclones .

Conclusion:

India's physiographic divisions—Himalayas, plains, plateaus, coasts, deserts, and islands—reflect diverse terrain. Odisha, in the Peninsular Plateau's Eastern Ghats and Coastal Plains, leverages its topography for agriculture, mining, and heritage, despite environmental challenges.

16. Does climate change make the coastal and Himalayan regions of India more vulnerable to disaster? Explain.

Introduction:

Climate change, characterized by **rising temperatures**, **erratic precipitation**, and **extreme weather events**, significantly heightens disaster vulnerability in India's coastal and Himalayan regions. These ecologically sensitive zones face amplified risks due to their unique geographical and climatic features.

Body:

Coastal Regions:

- **Increased Cyclones:** Rising sea surface temperatures (1.1°C since 1901) intensify tropical cyclones, with 7 major cyclones hitting India's east coast (2019-2024). Odisha and West Bengal face frequent losses, e.g., Cyclone Amphan (2020) caused \$13 billion in damages.

- **Sea-Level Rise:** Global sea levels rose 3.7 mm/year (1993-2023), threatening coastal erosion and submergence. **Sundarbans and Mumbai face risks**, with 36 million Indians potentially displaced by 2050 (IPCC).
- **Storm Surges and Flooding:** Higher tidal surges and heavy monsoon rains exacerbate flooding, impacting 14% of India's coastal population (105 million, 2021 Census).

Himalayan Regions:

- **Glacial Lake Outburst Floods (GLOFs):** Accelerated glacial melt (13% glacier loss in Himalayas, 1960-2020) increases GLOF risks. The 2021 Chamoli disaster in Uttarakhand killed over 200, highlighting vulnerability.
- **Landslides and Avalanches:** Erratic rainfall and warming (1.5°C rise since 1980) destabilize slopes, triggering landslides. **Himachal Pradesh reported 117 landslides in 2023, damaging infrastructure.**
- **Water Stress:** Altered monsoon patterns and glacial retreat disrupt river flows, affecting 50% of Himalayan-dependent populations (e.g., Ganga, Brahmaputra basins).

Common Vulnerabilities	Details
Extreme Weather	• Intensified heatwaves, droughts, and unseasonal rains • Impacting agriculture and livelihoods in both Himalayan and coastal regions
Ecosystem Degradation	• 40% decline in mangrove cover since 1950 along coasts • Deforestation in the Himalayas reducing natural disaster buffers
Socio-Economic Impact	• High population density: e.g., 1,200/km² in coastal Mumbai • 15% multidimensional poverty in Himalayan states • Challenges in disaster recovery and resilience

Conclusion:

Climate change exacerbates disaster vulnerability in India's coastal and Himalayan regions through intensified cyclones, sea-level rise, GLOFs, and landslides. Mitigating these risks requires adaptive measures like coastal embankments, afforestation, early warning systems, and sustainable development policies to protect lives and livelihoods.

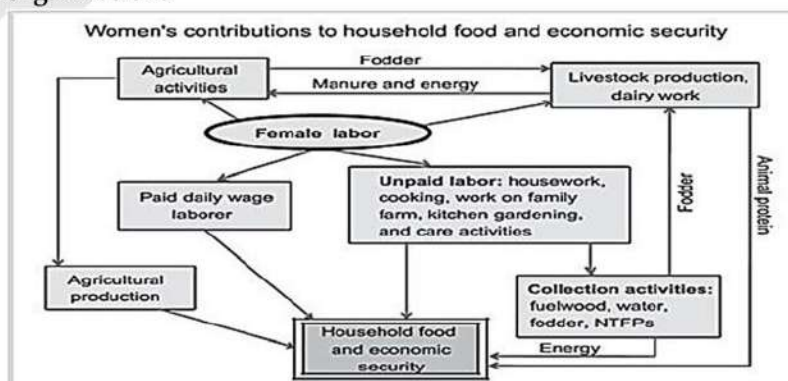
17. Analyze the role of women's organizations in promoting gender equality and women's empowerment in India. Discuss the steps taken by the Govt. (of Odisha for woman empowerment.

Introduction:

Women's organizations in India have been pivotal in advancing gender equality and empowerment, addressing systemic inequalities through advocacy and grassroots initiatives. In Odisha, targeted government interventions complement these efforts, fostering socio-economic upliftment of women.

Body:

Roles of Women's Organizations



Category	Details
Advocacy and Awareness	- SEWA and AIWC advocate women's rights and raise awareness on domestic violence and gender-based discrimination. #LahuKaLagaan (2017) by SheSays led to the removal of GST on sanitary napkins.
Economic Empowerment	- Azad Foundation trains women in non-traditional roles like professional driving. - MAKAAM supports women farmers' land rights across 24 states.
Education & Skill Development	- Milaan Foundation promotes girls' education and leadership development. - Contributes to improving female literacy (73.5% as per 2011 Census).
Legal Support	Majlis provides legal aid and support to women facing violence, ensuring access to justice for the marginalized.

Steps by Government of Odisha

Initiative	Details
Mission Shakti (2001)	- Empowers over 70 lakh women through Self-Help Groups (SHGs). - Provides microfinance and skill training, enhancing rural economic participation.
Interest-Free Loans (2025)	Offers interest-free loans up to Rs.10 lakh for SHGs, encouraging women-led entrepreneurship and financial independence.
Subhadra Yojana (2024-25)	- Provides Rs.50,000 over 5 years to women aged 21-60. - Targets 1 crore beneficiaries, enhancing financial security for women.
Women's Safety & Welfare	- Mamata Scheme ensures maternal health and nutrition. - Biju Kanya Ratna promotes education for the girl child, addressing gender disparities in literacy.

Conclusion:

Women's organizations in India drive gender equality through advocacy, economic empowerment, and education, significantly reducing systemic barriers. Odisha's initiatives, like Mission Shakti and Subhadra Yojana, complement these efforts, leading to women's socio-economic empowerment. Sustained collaboration between NGOs and the state is crucial for achieving inclusive development.