



APTI PLUS

Academy for Civil Services Pvt. Ltd.

CREATING CIVIL SERVANTS FOR THE NATION

OPSC OAS MAINS EXAMINATION ANSWERS 2024

GS-I

Q1. In the age of climate change, global warming plays a critical role in the melting of snow and ice cover. Discuss with suitable examples. (Marks: 15)

Answer:

Introduction

Global warming refers to the long-term rise in Earth's average temperature due to increasing greenhouse gas concentrations. It has emerged as the principal driver of accelerated snow and ice loss across the cryosphere.

Body

Mechanism of Snow and Ice Melt

Rising Atmospheric Temperature

- Global mean temperature has increased by about 1.1°C since the pre-industrial era.
- Higher temperatures accelerate melting of glaciers, snowfields, and polar ice caps.

Warming Oceans

- Oceans absorb over 90% of excess heat trapped by greenhouse gases.
- Warmer seawater melts ice shelves and coastal glaciers from below.

Albedo Feedback

- Snow and ice reflect most incoming solar radiation.
- Melting exposes darker land and ocean surfaces, increasing heat absorption and further accelerating warming.

Examples

Himalayan Glaciers

- Glaciers such as Gangotri, Pindari, and Dokriani have retreated significantly.
- According to ICIMOD, Himalayan glaciers may lose up to one-third of their volume by 2100 even if global warming is limited to 1.5°C.
- Increased risk of Glacial Lake Outburst Floods (GLOFs) in Himalayan states.

Arctic Region

- Arctic sea ice extent has declined by nearly 13% per decade since 1979.
- The Arctic is warming almost four times faster than the global average.

Greenland and Antarctica

- Rapid ice-sheet loss contributes substantially to global sea-level rise.
- Collapse of Antarctica's Larsen B Ice Shelf exemplifies climate-induced ice destabilization.

Consequences

- Rising sea levels threatening coastal regions.
- Altered river flows affecting water and food security.
- Increased frequency of climate-induced disasters.

Conclusion

Addressing global warming through emission reduction, renewable energy adoption, and international cooperation is essential to preserve snow and ice reserves and maintain global ecological balance.

Q2. Critically analyse with examples what tangible heritage and intangible heritage are in the context of Odisha. (Marks: 15)

Answer:

Introduction

Tangible heritage refers to physical and material cultural assets such as monuments, temples, sculptures, archaeological remains, and historical structures, whereas intangible heritage comprises living traditions, performing arts, rituals, festivals, oral traditions, and indigenous knowledge systems. In Odisha, both forms of heritage are deeply intertwined and collectively reflect the state's rich Kalinga civilization, religious traditions, and cultural continuity.

Body

Tangible Heritage in Odisha

- Konark Sun Temple, a UNESCO World Heritage Site, represents the pinnacle of Kalinga architecture and 13th-century artistic excellence.
- Jagannath Temple, Lingaraja Temple, and the Buddhist sites of Ratnagiri, Udayagiri, and Lalitgiri embody Odisha's religious and historical legacy.
- These assets generate tourism, preserve history, and strengthen cultural identity.

Intangible Heritage in Odisha

- Odissi Dance, one of India's oldest classical dance forms, evolved from temple traditions and devotional practices.
- Ratha Yatra, Gotipua, Pala, Daskathia, Danda Nata, Sambalpuri weaving traditions, and tribal folklore represent Odisha's living cultural heritage.
- These traditions sustain community bonds and transmit cultural values across generations.

Challenges

- Tangible heritage faces threats from urban expansion, environmental degradation, cyclones, and inadequate conservation resources.
- Intangible heritage faces commercialization, declining patronage, migration of youth, and loss of traditional knowledge.
- Excessive focus on monuments often overshadows preservation of associated rituals, art forms, and indigenous practices.

Sustainable heritage management requires integrating conservation with community participation and digital documentation.

Conclusion

Odisha's heritage includes monuments as well as living traditions and knowledge systems. Effective preservation must address both tangible and intangible assets to ensure cultural legacy supports identity and development.

Q3. Explain how the Bhauma-Kara and Somavamsi dynasties contributed to the political consolidation and cultural transformation of early-medieval Odisha. (Marks: 15)

Answer:

Introduction

The Bhauma-Kara (8th-10th century CE) and Somavamsi (9th-12th century CE) dynasties played a crucial role in the political integration and cultural evolution of early-medieval Odisha, laying foundations for a distinct Odishan identity.

Body

Political Consolidation

Contribution of the Bhauma-Karas

- Established a stable kingdom centered around Tosali (modern coastal Odisha).
- Integrated various tribal and regional chiefdoms under a centralized administration.
- Maintained political stability through strategic alliances and decentralized governance.
- Notable for the rule of several queens, including Tribhuvana Mahadevi, reflecting administrative continuity.

Contribution of the Somavamsis

- Expanded their authority from western Odisha to coastal regions.
- Unified Utkala, Kalinga, Kongoda, and Kosala, reducing regional fragmentation.
- Strengthened revenue administration and territorial governance.
- Created conditions for the emergence of a more cohesive Odishan polity.

Cultural Transformation

Religious Developments

- Bhauma-Karas patronized Buddhism, Shaivism, Vaishnavism, and Shaktism, fostering religious pluralism.
- Buddhist centres such as Ratnagiri, Udayagiri, and Lalitgiri flourished under their rule.
- Somavamsis promoted Shaivism, while accommodating other faiths.

Temple Architecture

- Somavamsis pioneered the mature Kalinga style of architecture.
- Construction of the Lingaraja Temple marked a milestone in Odishan temple architecture.
- Temple institutions became centres of socio-economic and cultural life.

Growth of Odishan Culture

- Encouraged Sanskrit learning, art, sculpture, and regional traditions.
- Facilitated the synthesis of tribal, Buddhist, and Brahmanical elements, shaping Odisha's cultural identity.

Conclusion

The Bhauma-Kara and Somavamsi dynasties transformed Odisha from a fragmented region into a politically integrated and culturally vibrant society, paving the way for the later achievements of the Eastern Ganga rulers.

Q4. What is social empowerment? Explain how the policies of social empowerment have been implemented in India with examples from Odisha State. (Marks: 15)

Answer:

Introduction

Social empowerment refers to the process of enhancing the capabilities, dignity, participation, and access to opportunities of disadvantaged sections, enabling them to enjoy equal rights and social justice.

Body

Policies of Social Empowerment in India

India has adopted constitutional, legal, and welfare measures to promote inclusive development.

Constitutional Measures

- Articles 14, 15, 16, 17 and 46 guarantee equality and protection of weaker sections.
- Reservation in education, public employment, and political institutions for SCs, STs, and OBCs.

Educational Empowerment

- Right to Education Act, 2009 ensures universal elementary education.
- Scholarships, hostels, and Eklavya Model Residential Schools support marginalized communities.

Women Empowerment

- Beti Bachao Beti Padhao, National Rural Livelihood Mission (NRLM) and reservation in local bodies enhance women's participation.
- The Nari Shakti Vandan Adhiniyam, 2023 strengthens political representation.

Social Protection

- SC/ST (Prevention of Atrocities) Act, 1989 safeguards vulnerable groups.
- Rights-based legislations such as the Forest Rights Act, 2006 empower tribal communities.

Odisha Examples

Tribal Empowerment

- Odisha's tribal population constitutes about 23% of the State's population.
- Effective implementation of the Forest Rights Act has provided individual and community forest rights.

Women-Led Development

- Mission Shakti has mobilized over 70 lakh women through Self-Help Groups, enhancing financial and social empowerment.

Education and Welfare

- Pre-Matric and Post-Matric scholarships, tribal hostels, and ST & SC Development Department initiatives have improved educational outcomes.

Conclusion

Social empowerment policies have expanded opportunities and reduced exclusion. Sustained investment in education, livelihoods, and community participation can further strengthen inclusive and equitable development in Odisha and India.

Q5. Discuss how the Bhakti Movement transformed religious practices and social relations in medieval Odisha. (Marks: 15)

Answer:

Introduction

The Bhakti Movement emerged as a devotional religious movement emphasizing personal devotion to God over ritualism. In medieval Odisha, it significantly influenced religion, literature, and social relations.

Body

Transformation of Religious Practices

Democratization of Religion

- Shifted focus from elaborate rituals to personal devotion (Bhakti).
- Made religious practices accessible to common people irrespective of caste.

Rise of the Jagannath Cult

- The Jagannath tradition evolved into a powerful symbol of inclusiveness and cultural unity.
- Popularized collective worship, pilgrimages, and devotional festivals.

Growth of Vernacular Literature

- Religious teachings were disseminated through the Odia language.
- The Panchasakha poets – Jagannath Das, Balaram Das, Achyutananda Das, Ananta Das, and Yasovanta Das – popularized devotional literature.
- Odia translations of sacred texts broadened religious participation.

Impact on Social Relations

Challenge to Caste Barriers

- Emphasized equality of devotees before God.
- Reduced the monopoly of priestly intermediaries in spiritual practices.

Cultural Integration

- Fostered interaction among different social groups through collective worship and festivals.
- Strengthened a shared Odia cultural identity.

Promotion of Ethical Values

- Encouraged compassion, humility, tolerance, and social harmony.
- Reinforced community solidarity across regions.

Limitations

- Caste distinctions continued in society despite egalitarian teachings.
- Social transformation remained gradual rather than revolutionary.

Conclusion

The Bhakti Movement profoundly reshaped medieval Odisha by promoting devotional religion, vernacular culture, and social cohesion. Its enduring legacy continues to influence Odisha's religious traditions and cultural identity.

Q6. Discuss briefly the role of the Archaeological Survey of India. (Marks: 15)

Answer:

Introduction

The Archaeological Survey of India (ASI), established in 1861 under Alexander Cunningham, is the

premier organization responsible for archaeological research, conservation, and protection of India's cultural heritage under the Ministry of Culture.

Body

Role of ASI

1. Conservation and Preservation of Monuments

- Protects and maintains over 3,600 centrally protected monuments and sites.
- Undertakes restoration of historical structures to preserve their architectural integrity.
- Conserves UNESCO World Heritage Sites such as Konark Sun Temple and Taj Mahal.

2. Archaeological Exploration and Excavation

- Conducts surveys and excavations to uncover ancient settlements, artefacts, and inscriptions.
- Important excavations include Rakhigarhi, Dholavira, and Sisupalgarh (Odisha).
- Helps reconstruct India's historical and cultural evolution.

3. Protection of Antiquities

- Implements the Ancient Monuments and Archaeological Sites and Remains Act, 1958.
- Regulates excavation, preservation, and movement of antiquities.
- Assists in recovery of stolen artefacts from abroad.

4. Research and Documentation

- Publishes archaeological reports, journals, and epigraphical studies.
- Documents inscriptions, manuscripts, sculptures, and heritage structures.
- Uses technologies such as GIS, LiDAR, remote sensing, and 3D mapping.

5. Heritage Education and Tourism

- Maintains site museums and promotes public awareness.
- Supports heritage tourism, generating employment and local economic development.

In Odisha, ASI conserves Konark Sun Temple, Udayagiri-Khandagiri Caves, Ratnagiri, Lalitgiri, and Langudi Buddhist Complex. It preserves Odisha's rich Buddhist, Jain, and temple heritage.

Conclusion

The ASI serves as the custodian of India's civilizational legacy. Strengthening scientific conservation, community participation, and digital documentation can ensure sustainable preservation of heritage for future generations.

Q7. What are the different types of forests found in Odisha, and how do these forests play an important role in biodiversity? (Marks: 15)

Answer:

Introduction

Odisha is one of India's most forest-rich states, with forests covering about 33% of its geographical area. These forests support diverse ecosystems, wildlife habitats, and ecological services, making the state a biodiversity hotspot.

Body

Types of Forests Found in Odisha

Forest Type	Distribution	Major Species
Tropical Moist Deciduous Forests	Similipal, Kandhamal, Keonjhar	Sal, Asan, Piasal
Tropical Dry Deciduous Forests	Balangir, Nuapada, Kalahandi	Teak, Mahua, Bamboo
Tropical Semi-Evergreen Forests	Eastern Ghats region	Rosewood, Jamun, Mango
Littoral and Swamp Forests	Coastal Odisha	Casuarina, Pandanus
Mangrove Forests	Bhitarkanika, Mahanadi Delta	Avicennia, Rhizophora, Sonneratia

Role of Forests in Biodiversity Conservation

1. Habitat for Diverse Wildlife

- Odisha forests support tigers, elephants, leopards, gaurs, deer, and estuarine crocodiles.
- Similipal Tiger Reserve hosts numerous endemic and threatened species.

2. Conservation of Genetic Diversity

- Forests preserve medicinal plants, wild crop varieties, and rare flora.
- Eastern Ghats are recognized for their rich endemic biodiversity.

3. Protection of Coastal Ecosystems

- Bhitarkanika National Park mangroves provide breeding grounds for fish, crustaceans, and reptiles.
- Act as natural barriers against cyclones and storm surges.

4. Ecological Services

- Regulate climate and rainfall.
- Prevent soil erosion and maintain watershed health.
- Enhance carbon sequestration, supporting India's climate commitments.

5. Livelihood Support

- Provide Non-Timber Forest Products (NTFPs) such as kendu leaves, honey, lac, and medicinal plants, sustaining tribal communities.

Conclusion

Odisha's diverse forest ecosystems are invaluable reservoirs of biodiversity and ecological security. Strengthening community-based conservation, afforestation, and sustainable forest management is essential for preserving these natural assets for future generations.

Q8. Explicate the nature of regional development in Odisha State. (Marks: 15)

Answer:

Introduction

Regional development refers to the balanced economic, social, and infrastructural growth of different geographical regions. Odisha exhibits significant regional disparities despite achieving rapid economic growth in recent decades.

Body

Nature of Regional Development in Odisha

Coastal Region: Relatively Developed

- Districts such as Khurda, Cuttack, Jagatsinghpur, Puri, and Ganjam have witnessed faster growth.
- Better connectivity, urbanization, industrialization, and educational institutions.
- Major industrial hubs include Paradeep, Bhubaneswar, and Cuttack.

Western Odisha: Moderate Development

- Agriculture remains the dominant occupation.
- Irrigation projects such as Hirakud Dam have supported agricultural growth.
- However, industrial and service-sector development remains limited.

Southern and KBK Region: Development Deficit

- Koraput, Malkangiri, Nabarangpur, Rayagada, Kalahandi, Balangir, and Nuapada face persistent poverty and infrastructure gaps.
- Higher tribal population, difficult terrain, and historical neglect have constrained development.
- Indicators of health, education, and income remain below the state average.

Factors Shaping Regional Development

- Uneven distribution of industries and infrastructure.
- Concentration of investments in coastal districts.
- Geographical barriers in tribal and hilly regions.
- Variations in literacy, healthcare, and market access.

Government Initiatives

- KBK Special Plan and Biju KBK Yojana.

- Aspirational Districts Programme in Koraput, Nabarangpur, Rayagada, and Malkangiri.
- Expansion of road connectivity, rural electrification, and Mission Shakti.
- Promotion of mineral-based industries in interior districts.

Conclusion

Odisha's regional development pattern reflects a contrast between the prosperous coastal belt and the lagging interior regions. Balanced infrastructure, human capital development, and inclusive governance are essential for achieving equitable regional growth.

Q9. Give a detailed account of the drainage system of Odisha. (Marks: 15)

Answer:

Introduction

The drainage system of Odisha comprises a network of rivers originating from the Eastern Ghats and the Chotanagpur Plateau and draining into the Bay of Bengal. It plays a vital role in agriculture, ecology, hydropower, and regional development.

Body**Major Drainage Basins of Odisha****1. Mahanadi Basin**

- Largest river basin of Odisha.
- Originates in Chhattisgarh and enters Odisha near Sambalpur.
- Major tributaries: Ib, Ong, Tel, Jonk and Seonath.
- Forms a vast delta before draining into the Bay of Bengal.
- Supports Hirakud Dam, one of India's longest earthen dams.

2. Brahmani Basin

- Formed by the confluence of South Koel and Sankh rivers.
- Flows through Sundargarh, Deogarh, and Jajpur districts.
- Joins the Baitarani before entering the sea.

3. Baitarani Basin

- Originates in the Gonasika Hills of Keonjhar.
- Important for irrigation and agriculture in northern Odisha.

4. Subarnarekha Basin

- Originates in the Chotanagpur Plateau.
- Flows through Jharkhand, West Bengal, and northern Odisha.
- Supports agriculture and industrial activities.

5. Rushikulya Basin

- Originates in the Eastern Ghats of Kandhamal.
- Notable for the mass nesting of Olive Ridley turtles near its mouth.

6. Vansadhara and Nagavali Basins

- Flow through southern Odisha into Andhra Pradesh.
- Important sources of irrigation in tribal-dominated regions.

Significance of Odisha's Drainage System

- Supports irrigation, drinking water, and hydropower generation.
- Sustains fertile deltaic agriculture.
- Maintains wetlands such as Chilika Lake.
- Conserves biodiversity and supports inland fisheries.
- Facilitates industrial and urban development.

Conclusion

Odisha's drainage system forms the backbone of its economy and ecology. Integrated river basin management, flood control, and watershed conservation are essential for sustainable development and climate resilience.

Q10. Odisha's festivals reflect its cultural pluralism and social harmony. Cite some examples. (Marks: 15)

Answer:

Introduction

Odisha is a unique cultural landscape where tribal, folk, Hindu, Buddhist, Jain, and regional traditions coexist. Its festivals embody cultural pluralism and strengthen social harmony across communities.

Body

Festivals Reflecting Cultural Pluralism

1. Rath Yatra of Puri

- Celebrates Lord Jagannath, Balabhadra, and Subhadra.
- Symbolizes inclusiveness as people from all castes and communities participate.
- The tradition of "Pahandi" and "Chhera Pahanra" reflects social equality.

2. Raja Festival

- Celebrates womanhood, fertility, and the earth's regenerative power.
- Observed across rural and urban Odisha irrespective of caste distinctions.
- Highlights respect for nature and gender sensitivity.

3. Nuakhai

- Major agrarian festival of Western Odisha.
- Marks the consumption of new harvest.
- Strengthens family bonds and community solidarity through collective celebrations.

4. Boita Bandana and Bali Jatra

- Commemorate Odisha's ancient maritime links with Southeast Asia.
- Reflect the state's cosmopolitan heritage and historical openness to external cultures.

5. Tribal Festivals

- Festivals such as Chaita Parab, Parab of Kondhs, and Mage Parab of Santals preserve indigenous traditions.
- Promote cultural diversity while integrating tribal communities into Odisha's broader cultural fabric.

6. Eid, Christmas and Guru Nanak Jayanti

- Celebrated with enthusiasm in Odisha's towns and cities.
- Demonstrate interfaith coexistence and mutual respect.

Contribution to Social Harmony

- Promote communal amity and social cohesion.
- Encourage collective participation beyond caste and religious identities.
- Preserve cultural heritage while fostering unity in diversity.
- Strengthen local economies through tourism and handicrafts.

Conclusion

Odisha's festivals serve as living expressions of unity in diversity. By fostering inclusiveness, mutual respect, and cultural continuity, they reinforce the state's tradition of social harmony and pluralistic coexistence.

Q11. Assess the major factors that led to the creation of the separate province of Odisha in 1936. (Marks: 15)

Answer:

Introduction

The creation of Odisha as a separate province on 1 April 1936 marked the culmination of a long linguistic and cultural movement aimed at uniting Odia-speaking people under a single administrative unit.

Body

Linguistic and Cultural Identity

- Odia-speaking regions were divided among the Bengal, Bihar-Orissa, Madras, and Central Provinces.
- This fragmentation threatened the development of the Odia language, literature, and culture.
- Intellectuals like Madhusudan Das championed the cause of linguistic unity.

Rise of Odia Nationalism

- The emergence of a distinct Odia linguistic consciousness fostered demands for administrative integration.
- Organizations such as Utkal Sammilani (1903) mobilized public opinion for a separate province.

Administrative Difficulties

- Odia-speaking populations faced neglect under different provincial administrations.
- Developmental priorities often favored dominant linguistic groups, leading to inadequate representation of Odia interests.

Political Mobilization and Leadership

- Leaders such as Madhusudan Das, Gopabandhu Das, and Krushna Chandra Gajapati spearheaded the movement.
- Memoranda, conferences, and public campaigns strengthened the demand.

British Policy and Constitutional Reforms

- The Montagu-Chelmsford Reforms (1919) and subsequent constitutional discussions recognized linguistic considerations in administration.
- The recommendations of various commissions and the Government of India Act, 1935 facilitated reorganization.

Economic Considerations

- A separate province was expected to ensure focused development of Odisha's resources, agriculture, irrigation, and infrastructure.

Conclusion

The formation of Odisha in 1936 was a landmark achievement of linguistic nationalism and democratic mobilization. It laid the foundation for preserving Odia identity and promoting region-specific governance and development.

Q12. Analyse the causes, course, and historical significance of the Paika Rebellion of 1817 in Odisha. (Marks: 15)

Answer:

Introduction

The Paika Rebellion of 1817 was an armed uprising against British rule in Odisha led by Bakshi Jagabandhu Bidyadhar Mohapatra. It is regarded as one of the earliest organized anti-colonial movements in India.

Body

Causes of the Rebellion

Economic Causes

- Introduction of exploitative British land revenue policies disrupted the traditional agrarian economy.
- Confiscation of Jagabandhu's hereditary estate (Killa Roranga) deprived him of livelihood.
- Excessive taxation burdened peasants, zamindars, and tribal communities.

Administrative Causes

- _____ Abolition of traditional privileges enjoyed by the Paikas (militia class) under the Khurda kings.
- British interference weakened indigenous administrative institutions.

Political Causes

- Annexation of Khurda Kingdom (1803) ended local sovereignty.
- Resentment against foreign rule grew among chiefs and common people.

Social and Cultural Causes

- Fear of erosion of traditional customs and authority structures.
- Widespread dissatisfaction among Kandhas, peasants, artisans, and Paikas.

Course of the Rebellion

- The revolt began in March 1817 at Khurda under the leadership of Bakshi Jagabandhu.
- Paikas, Kandha tribes, zamindars, and peasants attacked British establishments.
- Rebels captured parts of Khurda, Banapur, Puri, and Pipili.
- The uprising spread across coastal and central Odisha.
- Superior military strength enabled the British to suppress the rebellion by 1818, though resistance continued intermittently until 1825.

Historical Significance

- First large-scale expression of anti-colonial resistance in Odisha.
- Demonstrated unity among peasants, tribals, and traditional elites.
- Inspired later nationalist movements in Odisha.
- Recognized by the Government of India as a precursor to the freedom struggle; its bicentenary was commemorated in 2017.

Conclusion

The Paika Rebellion reflected Odisha's resistance to colonial exploitation and loss of sovereignty. Its legacy continues to symbolize courage, regional pride, and the spirit of India's freedom movement.

GROUP B

Q13. Analyse the role of Odia literature in shaping regional cultural identity. (Marks: 20)

Answer:

Introduction

Odia literature, one of India's oldest linguistic traditions, has played a pivotal role in preserving Odisha's cultural heritage, fostering linguistic unity, and shaping a distinct regional identity across centuries.

Body

Role in Shaping Regional Cultural Identity

1. Preservation of Odia Language and Identity

- Odia literature safeguarded the linguistic identity of Odisha against external influences.
- Literary movements contributed significantly to the recognition of Odia as a Classical Language in 2014.
- Works of Sarala Das, known as the "Adikabi" of Odisha, established Odia as a major literary language.

2. Promotion of Religious and Cultural Values

- Literature popularized the Jagannath cult, which became the cultural foundation of Odia society.
- Jagannath Das's Odia Bhagavata made religious teachings accessible to common people.
- The Panchasakha poets strengthened devotional traditions and social cohesion.

3. Social Reform and Public Consciousness

- Literary works challenged social evils and promoted ethical values.
- Fakir Mohan Senapati's writings highlighted rural realities, social inequalities, and colonial exploitation.
- Modern literature encouraged education, women's empowerment, and social justice.

4. Contribution to Odia Nationalism

- During the colonial period, literature became a tool for protecting Odia-speaking regions from administrative fragmentation.
- Literary organizations such as Utkal Sammilani promoted linguistic unity and ultimately supported the formation of Odisha as a separate province in 1936.

5. Reflection of Folk Culture and Traditions

- Odia literature preserved folk tales, legends, festivals, dance forms, and indigenous knowledge.
- It documented cultural practices associated with Rath Yatra, tribal traditions, and village life.

6. Contemporary Relevance

- Modern Odia writers address globalization, migration, environmental concerns, and regional aspirations.

- Literature continues to strengthen cultural pride among the Odia diaspora.

Conclusion

Odia literature has been the cultural backbone of Odisha, preserving language, traditions, and collective memory. Its continued promotion is essential for safeguarding Odisha's unique identity while adapting to contemporary challenges.

Q14. Explain how climatic factors play an important role in the development of various landforms. (Marks: 20)

Answer:

Introduction

Climate is a major geomorphic factor that influences the processes of weathering, erosion, transportation, and deposition. Variations in temperature and precipitation create distinct landforms across different climatic regions.

Body

Role of Climatic Factors in Landform Development

1. Temperature and Weathering

- High temperature variations promote mechanical weathering through expansion and contraction of rocks.
- Common in arid regions, leading to features such as:
 - Inselbergs
 - Pediments
 - Exfoliation domes

Example: Thar Desert of India.

2. Rainfall and Fluvial Landforms

- Heavy rainfall increases river discharge and erosional capacity.
- Rivers carve:
 - V-shaped valleys
 - Gorges
 - Waterfalls
 - Floodplains and deltas

Example: Brahmaputra Valley and Mahanadi Delta in Odisha.

3. Humid Tropical Climate

- High temperature and rainfall accelerate chemical weathering.
- Formation of:
 - Laterite landscapes
 - Deep weathering profiles
 - Karst features in limestone regions

Example: Lateritic uplands of Odisha and Karnataka.

4. Arid and Semi-Arid Climate

- Scarce rainfall and strong winds make aeolian processes dominant.
- Landforms include:
 - Sand dunes
 - Loess deposits
 - Yardangs
 - Mushroom rocks

Example: Sand dunes of Rajasthan.

5. Cold and Glacial Climate

- Snow accumulation and freeze-thaw action shape the landscape.
- Glaciers create:
 - Cirques
 - Arêtes

- U-shaped valleys
- Moraines

Example: Himalayan glacial landforms.

6. Coastal Climate and Marine Processes

- Waves, tides, and currents continuously modify coastlines.
- Formation of:
 - Sea cliffs
 - Beaches
 - Spits
 - Lagoons

Example: Chilika Lagoon and Odisha coast.

Climatic Change and Landforms

- Global warming accelerates glacier retreat, coastal erosion, and desertification.
- Extreme weather events increasingly reshape geomorphic features.

Conclusion

Climate acts as a fundamental control over geomorphic processes and landform evolution.

Understanding climate-landform interactions is essential for sustainable land-use planning, disaster management, and environmental conservation.

Q15. "The Indian caste system is paradoxical in nature, characterised by both staticity and fluidity." Discuss. (Marks: 20)

Answer:

Introduction

The caste system is a unique feature of Indian society. While it exhibits staticity through hereditary status and social hierarchy, it also demonstrates fluidity through mobility, reform, and socio-economic change.

Body

Static Nature of the Caste System

Hereditary Membership

- Caste status is traditionally determined by birth.
- An individual's social identity remains largely predetermined.

Hierarchical Stratification

- Society is organized into graded inequalities with notions of purity and pollution.
- Louis Dumont described caste as a hierarchical system based on ritual status.

Endogamy

- Marriage within the caste remains a dominant norm.
- Inter-caste marriages constitute a relatively small proportion of total marriages in India.

Occupational Continuity

- Traditionally, occupations were linked to caste groups, ensuring continuity across generations.

Social Control

- Caste panchayats and community norms historically regulated behaviour and social relations.

Fluid Nature of the Caste System

Sanskritization

- According to M.N. Srinivas, lower castes adopted practices of higher castes to improve social status.

Westernization and Modernization

- Education, urbanization, industrialization, and migration have weakened traditional caste barriers.

Constitutional and Legal Changes

- Articles 14, 15, 16, 17 and 46 promote equality and prohibit caste-based discrimination.
- Reservation policies have enhanced social mobility among marginalized groups.

Political Mobilization

- Democratic politics has transformed caste into a tool of political assertion and representation.
- Rise of backward caste leadership reflects changing power structures.

Economic Mobility

- Market economy, entrepreneurship, and globalization have enabled individuals to transcend traditional occupational constraints.

Why It Is Paradoxical

- Caste persists in marriage, social networks, and electoral politics.
- Simultaneously, education, urban life, and affirmative action facilitate mobility and transformation.
- Thus, continuity and change coexist within the same institution.

Conclusion

The Indian caste system embodies both resilience and adaptability. While traditional hierarchies continue to influence social life, democratic values, economic change, and constitutional safeguards are gradually making caste relations more fluid and egalitarian.

Q16. Assess the major developments in the final phase of the National Movement and explain why Independence became unavoidable by 1947. (Marks: 20)

Answer:

Introduction

The final phase of the Indian National Movement (1939–1947) witnessed mass mobilization, constitutional negotiations, wartime developments, and growing colonial instability, making British rule increasingly unsustainable.

Body

Major Developments in the Final Phase of the National Movement

1. Failure of Constitutional Initiatives

- August Offer (1940) and Cripps Mission (1942) failed to satisfy Indian aspirations for selfgovernment.
- Exposed Britain's reluctance to transfer real power.

2. Quit India Movement (1942)

- Launched under Gandhi's call of "Do or Die."
- Massive participation by students, workers, peasants, and women.
- Parallel governments emerged at Satara, Ballia, and Tamluk.
- Demonstrated the depth of nationalist sentiment.

3. Rise of the Indian National Army (INA)

- Led by Subhas Chandra Bose.
- Though militarily unsuccessful, INA trials generated nationwide sympathy and weakened British moral authority.

4. Post-War Political Negotiations

- Wavell Plan (1945) and Shimla Conference failed.
- Cabinet Mission Plan (1946) attempted a constitutional settlement but could not reconcile Congress-League differences.

5. Naval Mutiny and Labour Unrest (1946)

- Royal Indian Navy revolt spread to several cities.
- Reflected growing disaffection within armed forces, a pillar of British rule.

Why Independence Became Unavoidable by 1947

Political Factors

- Congress emerged as the dominant nationalist force.
- Muslim League's demand for Pakistan intensified political deadlock.

Economic Factors

- Britain faced severe post-World War II economic crisis and could not sustain imperial administration.

Administrative Factors

- Repeated mass movements eroded colonial legitimacy.
- Loyalty of armed forces became uncertain after INA trials and naval mutiny.

International Factors

- Emergence of the United Nations and global anti-colonial sentiment.
- The United States and Soviet Union favored decolonization.
- Labour Government in Britain supported constitutional transfer of power.

Conclusion

By 1947, nationalist pressure, imperial exhaustion, military disaffection, and global anti-colonial currents converged, making the transfer of power inevitable and ending nearly two centuries of British rule in India.

Q17. What are geomorphic hazards? Discuss various measures to mitigate such hazards. (Marks: 20)

Answer:

Introduction

Geomorphic hazards are natural processes originating from the Earth's surface dynamics that cause loss of life, property, infrastructure, and environmental degradation. They result from interactions among geological, climatic, and anthropogenic factors.

Body

Major Geomorphic Hazards

1. Earthquakes

- Caused by tectonic plate movements and faulting.
- Lead to ground shaking, liquefaction, and structural collapse.
- Example: 2001 Bhuj Earthquake.

2. Landslides

- Downward movement of rock, debris, or soil on slopes.
- Triggered by intense rainfall, earthquakes, deforestation, and road construction.
- Common in the Himalayas and Eastern Ghats of Odisha.

3. Volcanic Hazards

- Include lava flows, ash fall, pyroclastic flows, and toxic gases.
- Cause large-scale environmental and economic damage.

4. Soil Erosion and Desertification

- Result from deforestation, overgrazing, and unsustainable land use.
- Degrade land productivity and biodiversity.

5. Coastal Erosion and Tsunamis

- Alter coastlines and threaten settlements.
- Example: 2004 Indian Ocean Tsunami.

Measures to Mitigate Geomorphic Hazards

Structural Measures

- Earthquake-resistant buildings following BIS seismic codes.
- Retaining walls, rock bolting, and slope stabilization in landslide-prone areas.
- Coastal embankments, seawalls, and cyclone shelters.
- Watershed management and check dams to control erosion.

Non-Structural Measures

- Hazard zonation and micro-zonation mapping.
- Strict land-use planning in vulnerable regions.
- Early warning systems using GIS, Remote Sensing, and satellite monitoring.
- Enforcement of environmental regulations against indiscriminate mining and deforestation.

Community and Institutional Measures

- Public awareness and disaster preparedness programmes.
- Capacity building through mock drills and community participation.

- Implementation of the Disaster Management Act, 2005 and Sendai Framework (2015–30).
- Odisha's cyclone preparedness model demonstrates effective risk reduction through early warnings and evacuation.

Conclusion

As climate change and human interventions intensify geomorphic risks, integrating scientific planning, resilient infrastructure, ecosystem conservation, and community preparedness is essential for sustainable disaster risk reduction.