



Sambodh IAS (Beta)

UPSC CSE Mains 2026 General Studies Paper I

Model answer booklet · 20 questions

 History

 Geography

 Society



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Q01

10 marks · 150 words

Analyze

Analyze the importance of Ashokan inscriptions for reconstructing Mauryan history.

Introduction. Ashokan edicts—rock, pillar and cave inscriptions issued by Devanampiya Piyadasi, identified as Ashoka through Maski and Gujarra—are the earliest extensive contemporary records of the Mauryan state. Their wide spatial spread makes them the principal indigenous source for its reconstruction.

Political and administrative evidence

- Major Rock Edict XIII records the Kalinga war, its devastation and Ashoka's subsequent preference for *dhamma-vijaya*; it fixes a decisive turning point in imperial policy.
- Edicts name officers—*mahamatras*, *rajukas*, *pradesikas* and *dhamma-mahamatras*—revealing a differentiated bureaucracy, royal communication and provincial supervision.
- Their locations from Shahbazgarhi and Kandahar to Karnataka and Odisha map the empire's territorial reach and frontier engagement.

Society, religion and culture

- Rock Edicts I, II and XII show welfare measures, medical facilities, restraint on animal slaughter and respect for Brahmanas, Sramanas and sects; thus, Dhamma was an ethical public policy, not Buddhism alone.
- Prakrit in Brahmi/Kharosthi, and Greek-Aramaic edicts at Kandahar, establish linguistic diversity and cross-cultural contacts.

Source criticism

- As royal proclamations, they project Ashoka's ideal rather than everyday administration; they are silent on revenue, army and much of Chandragupta-Bindusara's reign. They require corroboration from archaeology, the *Arthashastra* and Greek accounts.

Conclusion. Thus, inscriptions provide Mauryan history its most reliable chronological and geographical framework, while their ideological selectivity necessitates triangulation with other evidence.

Sources: indianexpress.com · legacyias.com · timesofindia.indiatimes.com · tribuneindia.com · digitallylearn.com

Q02

10 marks · 150 words

Discuss

Discuss the impact of Macaulay's Minute on colonial administration and education in India.

Introduction. Macaulay's Minute on Indian Education (2 February 1835), accepted through Governor-General Bentinck's Resolution of 7 March 1835, settled the Anglicist–Orientalist controversy. It prescribed English as the medium for Western knowledge, principally to serve colonial utility.

Colonial administration

- It envisaged a class "Indian in blood and colour, but English in tastes" as cheap interpreters between rulers and subjects.
- English-educated Indians supplied clerks, subordinate judges and professionals; English replaced Persian in administration and courts in 1837.
- This produced an urban intermediary elite, while distancing administration from vernacular-speaking masses.

Educational and social consequences

- Funding shifted from Sanskrit and Arabic learning towards English literature, Western science and institutions such as Calcutta Medical College.
- Its downward-filtration approach privileged higher education; Wood's Despatch (1854) and the 1857 universities institutionalised this trajectory.
- It marginalised indigenous knowledge, mother tongues and mass elementary schooling, but introduced liberal ideas that informed social reform and nationalist leadership.

Conclusion. Thus, the Minute strengthened colonial control through an anglicised service class, yet unintentionally created a politically conscious intelligentsia. Contemporary decolonisation must restore Indian knowledge systems and multilingual learning without rejecting English as a global resource.

Sources: indianexpress.com · indianexpress.com · frontline.thehindu.com · indianexpress.com · timesofindia.indiatimes.com

Q03

10 marks · 150 words

Elucidate

The significance of the Gandhian movements lay in the masses they mobilized. Elucidate.

Introduction. Gandhi transformed nationalism from elite constitutional agitation into participatory politics through satyagraha, non-violence and constructive work. From Champaran (1917) to Quit India (1942), mass mobilisation gave the freedom struggle its social depth and political force.

Democratisation of nationalism

- Non-Cooperation (1920–22) drew peasants, workers, students, traders and women into boycott of schools, courts, foreign cloth and titles.
- Civil Disobedience, inaugurated by the 1930 Dandi March, made salt—a universal necessity—a symbol through which ordinary Indians could defy colonial law.
- Kheda, Bardoli and Champaran connected Swaraj with concrete grievances: revenue, indigo cultivation and peasant indebtedness.

Political and social consequences

- Participation created national consciousness across caste, region and class; khadi, Hindi, spinning and prabhat pheris supplied a shared political idiom.
- Women such as Sarojini Naidu and Kamaladevi Chattopadhyay entered public struggle; Adivasis and peasants asserted agency, not merely elite leadership.
- The Raj faced an ungovernable legitimacy crisis: mass arrests, administrative costs and the inability to portray nationalism as a fringe elite demand.

Limits

- Withdrawal after Chauri Chaura and uneven participation by Muslims, Dalits and industrial workers revealed limits of a unified mass coalition.

Conclusion. Thus, Gandhian movements made freedom a lived popular aspiration, furnishing independent India with the enduring repertoire of peaceful democratic protest.

Sources: timesofindia.indiatimes.com · bbc.com · aljazeera.com · deccanchronicle.com · theleaflet.in

Q04

10 marks · 150 words

Explain

What is the Fujiwhara effect? Explain its impact on the movement and intensity of tropical cyclones.

Introduction. The Fujiwhara effect, described by Japanese meteorologist Sakuhei Fujiwhara (1921), is the mutual interaction of two nearby cyclonic vortices. Their circulations cause them to rotate about a common centre instead of following only the prevailing steering winds.

Mechanism and movement

- It generally arises when cyclone centres are within about 1,400 km; comparable strength, size and vertical alignment favour interaction.

- In the Northern Hemisphere, the systems orbit counter-clockwise around their common centroid. The larger or stronger vortex usually dominates and deflects the weaker one.
- Tracks may curve, loop, accelerate or delay landfall; close systems can ultimately merge, complicating cyclone-track forecasts and evacuation decisions.

Impact on intensity

- Merger can consolidate vorticity, moisture and angular momentum into a larger system, potentially increasing wind, rainfall and storm-surge hazards.
- Conversely, distorted circulation and disruption of organised convection can weaken one or both cyclones. The outcome depends on separation, relative intensity, ocean heat content and vertical wind shear.

Conclusion. Thus, Fujiwhara interaction introduces major uncertainty in both cyclone trajectory and strength. Continuous satellite surveillance and IMD ensemble forecasts are essential for timely coastal warnings.

Sources: insightsonindia.com · tribuneindia.com · nature.com · thehindu.com · sciencedirect.com

Q05

10 marks · 150 words

Examine critically

"Tundra regions are ecologically fragile but economically important." Examine this statement critically.

Introduction. Tundra—treeless, cold, short-growing-season landscapes of the Arctic and high mountains—is characterised by permafrost and slow nutrient cycling. Its apparent emptiness masks climate-regulating functions and livelihoods, including Ladakh's cold desert.

Ecological fragility

- Thin soils and low temperatures make recovery from tyre tracks, overgrazing or oil spills take decades.
- Warming thaws permafrost, releasing CO₂ and methane, causing subsidence and lowering albedo; it also disrupts migratory fauna.
- In Changthang, erratic snowfall, extreme cold and shrinking pastures are causing livestock losses and altering Changpa migration routes (2026).

Economic value—and its costs

- Arctic hydrocarbons, minerals, fisheries and tourism, alongside Pashmina pastoralism, generate incomes; Ladakh's 2026 25% production incentive recognises this value.
- However, drilling, roads and mines fragment habitat, while thawing ground raises infrastructure costs and spill risks.

Critical appraisal

- Extractive GDP ignores carbon storage, biodiversity and indigenous subsistence. Equally, exclusionary conservation can shift costs to herders, as reported in Spiti.

Conclusion. Economic use must therefore remain within carrying capacity: community-led grazing plans, insurance for herders, protected migration corridors and stringent environmental assessment are preferable to either unchecked extraction or people-free conservation.

Sources: india.mongabay.com · frontline.thehindu.com · thehindubusinessline.com · iopscience.iop.org · newindianexpress.com

Q06

10 marks · 150 words

Discuss

Discuss the role of aeolian processes in desertification and land degradation.

Introduction. Aeolian processes—wind erosion, transport and deposition of sediment—operate intensely over dry, loose and sparsely vegetated surfaces. Under the UNCCD framework, they can convert productive drylands into desertified landscapes when coupled with climatic variability and human misuse.

Mechanisms of wind degradation

- Deflation removes nutrient-rich silt, clay and organic matter, lowering soil depth, moisture-holding capacity and crop yields.
- Saltation and surface creep dislodge soil aggregates; abrasion by moving sand damages seedlings, standing crops and soil crusts.
- Deposition buries arable fields, canals, roads and grazing land; migrating dunes thereby fragment land use.

Desertification feedbacks and evidence

- Loss of vegetation exposes more soil, intensifying wind erosion; reduced fertility further prevents natural regeneration.
- Overgrazing, fuelwood removal and poorly managed cultivation make wind a degradation multiplier rather than a purely natural agent.
- A 2025 geospatial study identified aeolian sand-migration hotspots in semi-arid Anantapur, Andhra Pradesh. Intensifying pre-monsoon dust storms in the Thar region also transport soil and worsen urban aerosol loads.

Limits and response

- Wind action is natural; degradation depends on surface vulnerability and unsustainable land management.
- Shelterbelts, dune stabilisation with native grasses, regulated grazing and vegetative cover can interrupt the erosion–desertification cycle.

Conclusion. Thus, aeolian processes both signal and accelerate dryland stress. Landscape-level vegetation restoration and windbreak planning should accompany drought-resilient farming.

Sources: preview-www.nature.com · link.springer.com · doi.org · tribuneindia.com · legacyias.com

Q07

10 marks · 150 words

Examine

"Water resources are both an asset and a source of conflict in South Asia." Examine this statement giving examples.

Introduction. South Asia's transboundary rivers—Indus, Ganga-Brahmaputra and Mahakali—support food, energy and ecology. Upstream–downstream asymmetry makes them platforms of cooperation and strategic contestation.

Water as an asset

- The Indus Waters Treaty (1960), surviving wars, allocated eastern rivers to India and western rivers to Pakistan, enabling irrigation and hydropower.
- The Ganga Treaty (1996) and India-Nepal Mahakali Treaty (1996) institutionalised seasonal sharing and envisaged multipurpose development.
- India-supported Bhutanese hydropower exports show water-energy interdependence and mutual gains.

Why it becomes conflictual

- Glacier melt, erratic monsoons and rising demand turn lean-season allocation into zero-sum politics; Pakistan's agriculture and power remain heavily Indus-dependent.
- Disputes over Baglihar and Kishanganga, alongside inadequate hydrological-data sharing, deepen mistrust. India placing the Indus treaty in abeyance has heightened fears of water coercion.
- The Ganga Treaty expires in December 2026; Bangladesh's demand for renegotiation reflects concerns over Farakka-season flows, population pressures and climate change.

Conclusion. Durable water security requires treaty-based sharing, real-time data exchange and basin-wide climate adaptation. Rivers must be treated as shared ecological systems, not instruments of unilateral leverage.

Sources: asiatimes.com · indianexpress.com · cnbc.com · theprint.in · asiatimes.com · globalwaterforum.org · link.springer.com · sciencedirect.com · internationalaffairs.org.au

Q08

10 marks · 150 words

Comment

Unity in diversity remains the defining feature of Indian society despite the challenges from communalism and regionalism. Comment.

Introduction. India's unity is not cultural uniformity but a constitutional compact enabling linguistic, religious, tribal and regional identities to coexist within one political community. The freedom struggle and the Constitution transformed this plurality into a shared national project.

Constitutional and social glue

- Preamble's fraternity, Articles 14-15 (equality), 25-30 (religious and minority-cultural rights) and the Eighth Schedule reject assimilation.

- Linguistic reorganisation of States, federal representation in Parliament, and inter-State migration accommodate identities rather than suppress them.
- National elections, armed forces, all-India services, cricket and disaster solidarity create everyday cross-regional bonds.

Fault-lines requiring candour

- Communal polarisation, hate speech and identity-based violence weaken equal citizenship; selective policing breeds minority distrust.
- Regionalism arises from uneven development, disputes over water/boundaries, migration anxieties and perceived erosion of State autonomy.
- Majoritarian cultural claims or excessive centralisation can convert legitimate diversity into alienation.

A qualified affirmation

- Articles 263 and 280 institutions, cooperative federalism, impartial law enforcement and civic education must protect pluralism.
- The Supreme Court's basic-structure doctrine, especially secularism and federalism, remains a constitutional guardrail.

Conclusion. Thus, unity in diversity endures because India possesses democratic channels for negotiating difference. It will survive not through homogenisation, but through fraternity, constitutional restraint and genuine federal accommodation.

Sources: m.thewire.in · vajiramandravi.com · csconversations.in · indianexpress.com · polsci.institute · anantamias.com · recordoflaw.in · anantamias.com · bharatnotes.com · polsci.institute

Q09

10 marks · 150 words

Substantiate

How do you understand disability? Substantiate the need for inclusive policy framework in India in this regard.

Introduction. Disability is not merely a medical impairment; under the UNCRPD's social/rights-based approach, it arises when physical, attitudinal, communication and institutional barriers restrict equal participation. It includes visible, intellectual, psychosocial and invisible disabilities.

Why an inclusive framework is necessary

- Article 14, 15(3), 21 and 41 require substantive equality, dignity and public assistance; charity-based policy cannot meet these guarantees.
- Census 2011 recorded 2.68 crore persons with disabilities; exclusion from schooling, skilling, transport, digital services and employment converts impairment into poverty and dependence.
- Women, children, rural persons and those with psychosocial disabilities face intersecting discrimination, violence and weak access to certification and healthcare.

Policy basis and gaps

- RPwD Act, 2016 recognises 21 disabilities, mandates reasonable accommodation, accessibility and 4% reservation in government employment; its enforcement remains uneven across States.
- Universal Design in schools, buildings, transport and e-governance prevents costly post-facto adaptation. Mandatory Accessibility Conformance Reports for digital platforms can make online services usable.
- A National Assistive Technology Policy can ensure affordable devices, repair, indigenous innovation and last-mile delivery.

Conclusion. Inclusion must therefore be mainstreamed in every ministry's budget and outcomes, with persons with disabilities participating in design, audit and grievance redress. This realises equal citizenship, not welfare alone.

Sources: theprint.in · theprint.in · newindianexpress.com · timesofindia.indiatimes.com · journal.sijss.com · depwd.gov.in · en.wikipedia.org · edurev.in · hrinformative.com · pjssrjournal.com

Q10

10 marks · 150 words

Explain

Do you think digital technology promotes social empowerment? Explain with examples.

Introduction. Digital technology promotes social empowerment when it expands people's capability to access entitlements, information, markets and voice—especially for those excluded by distance, caste, gender or language. It is an enabler, not an automatic equaliser.

Expanding capabilities and entitlements

- Aadhaar-enabled DBT reduces intermediaries in pensions, scholarships and MGNREGA wages; UMANG and DigiLocker simplify service access.
- AI platform Haqdarshak has helped 76 lakh families identify and access welfare schemes.
- Telemedicine through e-Sanjeevani and Anaxee's 40,000 GPS-enabled Digital Runners across 540 districts show last-mile health inclusion.

Voice, livelihoods and inclusion

- UPI enables women, street vendors and micro-enterprises to receive payments and build transaction histories; SHG members use digital platforms for credit and markets.
- Bhashini's Indian-language AI can lower the English-language barrier. Andhra Pradesh's Mana Mitra WhatsApp service delivered about 2 crore services to 40 lakh users.
- Social media and grievance portals enable collective mobilisation and administrative accountability.

Limits requiring safeguards

- NFHS-5 shows a gendered digital divide; device poverty, poor connectivity and low literacy exclude many.
- Biometric failures, algorithmic bias, cyber-fraud and surveillance can deny dignity and privacy under Article 21.

Conclusion. Technology must therefore be combined with BharatNet, assisted offline access, digital literacy, multilingual design and strong data protection. Thus, inclusive public digital infrastructure can convert connectivity into substantive social empowerment.

Sources: frontiertech.niti.gov.in · frontiertech.niti.gov.in · theprint.in · economictimes.indiatimes.com · thelogicalindian.com · digitalindia.gov.in · digitalindiaindian.com · digitalindia.gov.in · economictimes.indiatimes.com · gov.uk

Q11

15 marks · 250 words

Elucidate

Vijayanagara architecture exemplifies the amalgamation of past traditions with contemporary practices. Elucidate with examples.

Introduction. Vijayanagara architecture (c. 1336–1565) was not a mere revival of Hindu forms. At Hampi and provincial centres, it fused Chalukya-Hoysala and Tamil-Dravida legacies with the materials, urban needs and Indo-Islamic idiom of its own age.

Inheritance and revival of southern traditions

- Temples retained the Dravida scheme of a garbhagriha, vimana, ardhamandapa and pillared halls. The Virupaksha and Vitthala temples continued the sacred centrality of the shrine.
- Chalukyan-Hoysala workmanship survived in precisely carved granite pillars, lathe-turned forms and exuberant yali (rearing horse-lion) brackets; the Hazara Rama temple's Ramayana friezes recall earlier narrative temple sculpture.
- Tamil-Pandya influence is visible in the monumental raya-gopurams: high, tapering brick-and-stucco entrance towers over granite bases at Virupaksha and Krishna temples.

Contemporary experimentation and synthesis

- The empire enlarged mandapas into public ritual spaces. Vitthala's maha-mandapa has composite horse pillars and musical pillars, while its stone chariot reworked the earlier ratha idea into a distinctive Vijayanagara icon.
- Courtly buildings adopted Deccani Indo-Islamic devices. The Lotus Mahal combines cusped arches, vaulted interiors and pyramidal tiered roofs; the Elephant Stables use a rhythmic arcade and alternating ribbed, domical roofs.
- The Queen's Bath, with recessed arches, corridors and a water pavilion, shows adaptation of Islamic bath architecture to a royal Hindu urban complex.
- Massive granite enclosure walls, bazaars aligned to temple gateways, tanks and canals responded to Hampi's boulder-strewn terrain and to the requirements of an imperial capital.

Living architectural record

- ASI's 2026 conservation of Hazara Rama's stone flooring using period construction practices, and excavation of its drainage system, underline the engineering sophistication integral to this synthesis.

Conclusion. Thus, Vijayanagara created a recognisable imperial idiom: devotional Dravida architecture was retained, but its scale, sculpture, civic planning and secular forms were

transformed through contemporary Deccan contacts. Hampi's UNESCO landscape consequently records both cultural continuity and creative adaptation.

Sources: newindianexpress.com · newindianexpress.com · newindianexpress.com · en.wikipedia.org · thehindu.com

Q12

15 marks · 250 words

Comment

Linguistic reorganization of Indian States was driven by popular pressure from below.
Comment.

Introduction. Linguistic reorganisation meant aligning State boundaries substantially with linguistic communities. It was not a pre-planned constitutional settlement: Article 3 vested Parliament with the power to alter boundaries, but mass mobilisation made its exercise politically unavoidable.

Popular pressure as the decisive impulse

- The Andhra movement, led by the Andhra Mahasabha and intensified by Potti Sriramulu's 56-day fast and death in 1952, compelled creation of Andhra State in 1953 from Madras State.
- The demand was rooted in everyday democratic claims: mother-tongue administration, education, employment and protection of regional culture. Telugu, Marathi, Gujarati, Kannada and Malayalam public spheres supplied organisations, presses and leaders.
- Samyukta Maharashtra and Maha Gujarat agitations, including the 1956–60 protests in bilingual Bombay State, led to Maharashtra and Gujarat in 1960. Thus popular movements converted linguistic identity into territorial claims.
- The Vishal Andhra demand helped produce Andhra Pradesh in 1956; later Punjabi Suba mobilisation resulted in Punjab's reorganisation in 1966.

Yet, pressure was mediated from above

- The Dhar Commission (1948) and the JVP Committee (1949) initially rejected linguistic provinces, fearing parochialism and national disunity. Nehru and Patel did not concede merely on ideological grounds.
- After the Andhra crisis, the Union appointed the Fazl Ali States Reorganisation Commission (1953). Its 1955 report applied not language alone but administrative viability, economic integration, communications and minority safeguards.
- The States Reorganisation Act, 1956 and the Seventh Constitutional Amendment reorganised 14 States and 6 Union Territories through parliamentary decision. Bombay, Hyderabad and Madras were not simply divided along one-language lines; Telangana's distinctive conditions, for instance, shaped the initial arrangement.

Assessment

- Therefore, the proposition is substantially correct: mobilisation from below broke elite resistance and set the agenda. But the final map was a negotiated federal response, not an automatic linguistic partition.

Conclusion. Linguistic states accommodated identities within the Union and reduced separatist potential. Their enduring lesson is that democratic recognition must be coupled with minority protection and viable, cooperative federal institutions.

Sources: tribuneindia.com · indianexpress.com · theindiaforum.in · indianexpress.com · scroll.in

Q13

15 marks · 250 words

Comment

The model of planned economy was adopted in India to address the regional imbalances left behind by colonial rule. Comment.

Introduction. Colonial infrastructure was designed around port cities, plantations and extractive railways, leaving the eastern, central and north-eastern hinterlands capital-poor. India's Planning Commission (1950) therefore adopted a mixed, centrally directed planning model to combine growth with spatial equity.

How planning targeted regional imbalance

- Article 38(2) directs the State to minimise inequalities among regions; Articles 275 and 280 enabled grants and Finance Commission-based fiscal equalisation.
- The Second Plan located basic industries deliberately in backward areas: Bhilai (Madhya Pradesh), Rourkela (Odisha), Durgapur (West Bengal), Bokaro (Bihar) and public-sector units such as BHEL at Bhopal and Heavy Engineering Corporation at Ranchi.
- Five-Year Plans used industrial licensing, concessional finance, freight equalisation (1952–93), backward-area incentives and the Gadgil Formula (1969) to channel Central assistance towards special-category and poorer States.
- Area-specific interventions—Drought Prone Areas Programme, Tribal Sub-Plan, Command Area Development and hill-area programmes—recognised that inter-State averages concealed intra-State deprivation.

Record: partial correction, not convergence

- Green Revolution investment—irrigation, procurement and high-yielding seeds—was concentrated in Punjab, Haryana and western Uttar Pradesh; rain-fed eastern India and Deccan regions lagged. Thus, planning itself generated new spatial skew.
- Public investment created industrial nodes and infrastructure, while poverty reduction and rural schemes improved lagging regions. Yet “backward-area” incentives often produced isolated factories without local skills, supplier networks or urban services.
- Centralised target-setting underplayed State-specific capabilities; leakages, weak implementation and politically influenced project location diluted outcomes. Despite planned transfers, prosperous western and southern States accumulated stronger human capital, manufacturing and services.
- Liberalisation after 1991 weakened licensing-based dispersal; private investment gravitated to already connected metropolitan corridors. Recent district-level evidence similarly shows widening disparities within States.

Conclusion. Planning was therefore justified as a corrective to colonial geography and achieved strategic dispersal of public investment. However, it could not by itself overcome unequal natural endowments, governance capacity and market access. Cooperative fiscal federalism, outcome-linked grants, district planning and connectivity-led growth corridors must now pursue convergence without sacrificing efficiency.

Sources: frontline.thehindu.com · epw.in · thehindubusinessline.com · policyedge.in · thehindu.com

Q14

15 marks · 250 words

Compare

Compare the Loo, Chinook and Foehn winds with respect to their regions of prevalence, their nature and climatic impacts.

Introduction. Local winds are mesoscale winds generated by differential heating and relief. Loo, Chinook and Foehn are all warm and dry, but the Loo is a desert-origin wind, whereas Chinook and Foehn acquire warmth chiefly through adiabatic descent.

Regions and seasonality

- **Loo:** Hot north-western and northern Indo-Gangetic Plain—Rajasthan, Punjab, Haryana, Delhi, Uttar Pradesh and Bihar—during May–June afternoons, before monsoon onset.
- **Chinook:** Eastern (leeward) slopes of the Rocky Mountains, especially Alberta and the Great Plains of Canada–USA; mainly winter and spring.
- **Foehn:** Leeward/northern side of the Alps, notably Switzerland, Austria and southern Germany; frequent in winter and spring.

Nature and mechanism

- **Loo:** Extremely hot, dry, often dust-laden gusts blow from the Thar Desert towards the plains. It is a thermal wind: intense continental heating creates low pressure, drawing in pre-heated desert air.
- **Chinook and Foehn:** Moist air rises on the windward mountain slope, cools at the saturated adiabatic lapse rate, condenses and precipitates. The now drier air descends the leeward slope and warms at the dry adiabatic lapse rate ($\sim 10^\circ\text{C}/\text{km}$), becoming hot and dry.
- Thus, Chinook and Foehn are analogous orographic, downslope winds; “Chinook” is the North American and “Foehn” the Alpine regional name.

Climatic and human impacts

- **Loo:** Produces heatwaves, dehydration, heatstroke and crop-moisture stress; dust reduces visibility. It raises pre-monsoon temperatures but its weakening often signals advancing monsoon conditions.
- **Chinook:** Can raise temperature sharply within hours, rapidly melt snow and open grazing land—hence the “snow-eater”. Conversely, snowmelt may trigger floods, while warmth and low humidity elevate wildfire risk.
- **Foehn:** Causes abrupt warming, snowmelt and avalanches/flood risk in Alpine valleys; dry gusts can damage crops and intensify fires. It also creates clear, warm leeward conditions.

Conclusion. In sum, their shared hot-dry character masks distinct genesis: Loo reflects summer desert heating, while Chinook and Foehn reflect relief-induced adiabatic warming. Forecasting each is vital for heat-health action, water management and mountain-hazard warnings.

Sources: anantamias.com · legacyias.com · superkalam.com · meetingorganizer.copernicus.org · nature.com

Q15

15 marks · 250 words

Analyze

Analyze the role of satellite-based technologies in achieving climate-smart agriculture and food security in India.

Introduction. Satellite-based earth observation (optical, SAR and thermal sensors), combined with GIS, weather data and NavIC, converts field conditions into actionable advisories. Climate-smart agriculture pursues the FAO "triple win": higher productivity, adaptation to climate shocks and lower emissions.

Climate-risk intelligence and adaptation

- NDVI, soil-moisture and land-surface-temperature imagery identify crop stress, drought, heat and flood inundation early; SAR remains useful under monsoon cloud cover.
- In-season crop maps enable district-wise sowing and acreage assessment. The 2026 research on progressive crop mapping indicates its utility for timely scheme governance, rather than relying only on post-harvest estimates.
- Through FASAL and ISRO's Bhuvan platforms, yield forecasts and drought assessment can trigger contingency crop plans, seed/fodder deployment and anticipatory procurement.
- Site-specific irrigation scheduling limits water stress and groundwater extraction; satellite-derived evapotranspiration can target micro-irrigation in water-scarce regions.

Productivity, mitigation and food security linkage

- Spatial crop-health maps permit variable-rate fertiliser and pesticide application, reducing input costs, nitrous-oxide emissions and residue contamination while sustaining yields.
- Remote sensing-based crop-cutting experiment sampling and damage assessment can improve PMFBY claim settlement, cushioning farmers after extreme-weather losses.
- Accurate estimates of rice, wheat and pulse production strengthen buffer-stock planning, PDS allocation and import/export decisions, preventing supply shocks.
- Monitoring crop residue burning, forest encroachment and irrigation intensity supports enforcement and climate-resilient land-use planning.

Constraints and necessary integration

- Small, fragmented and intercropped plots reduce image resolution and classification accuracy; cloud cover, weak ground-truth data and proprietary platforms compound errors.
- A satellite alert does not ensure action: tenant farmers may lack smartphones, extension access, credit or control over irrigation.
- ISRO, IMD, ICAR and State agriculture departments should fuse satellite, soil-health and automatic-weather-station data; validate algorithms through Krishi Vigyan Kendras and deliver local-language

advisories through Kisan Call Centres.

Conclusion. Thus, satellites are not substitutes for agronomy or public procurement; they are an information backbone connecting early warning to farm decisions, insurance and food management. Open interoperable data, last-mile extension and farmer consent can make this backbone climate-smart and equitable.

Sources: link.springer.com · iopscience.iop.org · legacyias.com · openreview.net · thehindubusinessline.com · thehindubusinessline.com · digitalindiatimes.com

Q16

15 marks · 250 words

Examine

"The centre of global trade is gradually shifting from the Atlantic region to the Indo-Pacific region." Examine this statement.

Introduction. The Atlantic-centred order—built around Europe–North America industrialisation, trans-Atlantic finance and the Suez–Mediterranean route—is being rebalanced towards the Indo-Pacific, stretching from the Indian Ocean to the western Pacific. The shift is visible in production, consumption, maritime routes and strategic infrastructure, though it is not a complete displacement.

Evidence of the eastward shift

- Asia accounted for about 42% of world merchandise exports in 2023 (WTO). China is the world's largest goods exporter; ASEAN, India and East Asia have become major manufacturing and consumer markets.
- Indo-Pacific supply chains dominate electronics, semiconductors, ships, textiles and renewable-energy equipment: the "China+1" strategy has expanded production in Vietnam, Indonesia and India.
- The Malacca Strait carries roughly one-quarter of global maritime trade. Singapore, Shanghai, Shenzhen, Busan and Dubai rank among leading container ports, signalling the centrality of Indian Ocean–Pacific sea lanes.
- Mega-regional arrangements—RCEP, CPTPP and ASEAN-led value chains—lower trade barriers and deepen intra-Asian commerce. India's Act East policy, PM Gati Shakti and Sagarmala seek to connect it to these networks.

Drivers and strategic implications

- Rapid Asian growth, urbanisation and a growing middle class have shifted demand eastward, while FDI follows efficient production clusters and large markets.
- Trade routes increasingly shape geopolitics: the Quad, IPEF, AUKUS and China's Belt and Road Initiative reflect competition over ports, standards, critical minerals and secure sea lanes.
- The Red Sea disruption exposed the vulnerability of the Suez route and increased attention to alternatives such as the India–Middle East–Europe Economic Corridor.

Why the claim needs qualification

- The US and EU retain unmatched financial depth, high-value technology, reserve-currency influence and large consumer markets; trans-Atlantic trade and investment remain substantial.
- Indo-Pacific trade is fragmented by US–China rivalry, South China Sea tensions, protectionism and dependence on chokepoints such as Malacca and Hormuz.

Conclusion. Thus, global trade is undergoing reorientation rather than an Atlantic collapse. India should combine port-led connectivity with resilient supply chains, trade facilitation and rules-based freedom of navigation to convert its Indian Ocean location into durable trade influence.

Sources: andamanpartners.com · legacyias.com · nex-wire.com · populismstudies.org · business.cornell.edu · gjia.georgetown.edu · britannica.com · orfonline.org · sjdlyj.ecnu.edu.cn · ispionline.it

Q17

15 marks · 250 words

Analyze

Analyze the major drivers of human-induced land-use changes in India and their geographical consequences.

Introduction. Land-use change is the conversion or altered intensity of use of cropland, forest, pasture, wetlands and built-up land by human decisions. In land-scarce India, demographic demand, state policy and markets interact with distinct physiography, producing spatially uneven outcomes.

Demand, production and policy drivers

- Population growth, rising incomes and rural-urban migration convert peri-urban farmland into housing, industry and services around Delhi-NCR, Bengaluru, Hyderabad and tier-II cities.
- Green Revolution incentives—assured procurement of rice and wheat, fertiliser subsidy and canal/tubewell irrigation—intensified cropping in Punjab-Haryana and western Uttar Pradesh; horticulture and commercial crops similarly reshape western and southern India.
- Expressways, railways, ports, dams, renewable-energy parks and industrial corridors acquire contiguous land. Mining of coal, iron ore and bauxite converts forests and tribal commons in central and eastern India.
- Weak land-use zoning, speculative real estate, encroachment of commons and tourism infrastructure accelerate conversion; hence local decisions are reinforced by national commodity and infrastructure markets.

Geographical consequences and feedbacks

- Built-up sprawl fragments agricultural land and wildlife corridors, notably in the Western Ghats and central Indian elephant landscapes, reducing habitat connectivity and ecosystem services.
- Floodplain occupation, wetland reclamation and hill cutting obstruct natural drainage: urban flooding in Chennai and Bengaluru illustrates the land-cover-runoff linkage.
- Irrigation-led monoculture causes groundwater depletion in north-west India, while waterlogging and salinisation occur in canal-command areas; cultivation on slopes intensifies erosion in the Himalaya and north-east.

- Forest loss and surface sealing reduce carbon sinks and evapotranspiration, aggravating urban heat islands, local rainfall variability and dust/desertification risks. These impacts disproportionately burden Adivasi and rain-fed farmers through displacement and resource loss.

Corrective spatial planning

- Article 48A, the Forest (Conservation) Act, 1980 and wetland regulation require landscape-level implementation, not project-wise clearance. The 2025 PLOS Climate framework rightly stresses long-term, spatially explicit assessment.
- Integrate satellite-based land-use inventories with district master plans; protect floodplains, commons and corridors, incentivise crop diversification, and prioritise brownfield redevelopment over peri-urban expansion.

Conclusion. India must treat land as an ecological and livelihood asset rather than merely a convertible commodity. Participatory zoning with cumulative-impact assessment can reconcile infrastructure and food needs with watershed, biodiversity and climate resilience.

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Q18

15 marks · 250 words

Illustrate

Is caste disappearing in urban India? Illustrate your answer with examples.

Introduction. Urbanisation weakens the village-based *jajmani* order, ritual segregation and overt caste surveillance through anonymity, education and occupational mobility. Yet caste has largely changed its sites and idioms rather than disappeared.

Signs of attenuation

- Mixed neighbourhoods, public transport, universities and formal workplaces create everyday contact beyond caste; migrant networks may be regional or occupational rather than caste-based.
- Inter-caste friendships, marriages under the Special Marriage Act, 1954, and Dalit-middle-class entry into higher education and services widen individual choice.
- Constitutional guarantees—Article 15(2) against denial of access, Article 17 abolishing untouchability, and reservations under Articles 15(4) and 16(4)—make explicit exclusion legally challengeable.

Caste's urban reproduction: illustrations

- Housing discrimination persists through landlords' queries on surname, food habits and community; gated colonies and migrant bastis produce new spatial segregation.
- Employment is segmented: sanitation, sewer work and waste-picking remain caste-marked. Ministry of Social Justice profiling (2026) found SC/ST/OBC communities constituted 84.5% of 1.52 lakh waste-pickers.
- Marriage remains the clearest marker: the Telangana caste survey reported over 91% of urban households marry within caste. Matrimonial portals, caste associations and kin networks modernise endogamy.

- The same survey found the deprivation gap between the most backward group and General Castes exceeded four times in urban Telangana, versus 3.5 times in rural areas—urban residence alone does not equalise assets or schooling.
- Electoral mobilisation through caste associations, surname-based networks in recruitment, and discrimination against Dalits in rented housing show that anonymity is incomplete.

A differentiated picture

- Class, education and metropolitan cosmopolitanism can dilute daily caste practice for some; however, informal workers, migrants, Dalits and Adivasis face its sharper material consequences. Thus, caste is less publicly avowed, not socially absent.

Conclusion. Urban India is therefore not casteless; it is a setting where caste is often mediated by markets, residence and networks. Enforcing the SC/ST (Prevention of Atrocities) Act, 1989, anti-discrimination norms in housing and dignified mechanised sanitation can translate urban mobility into substantive equality.

Sources: thesouthfirst.com · theprint.in · frontline.thehindu.com · thehindu.com · thehindu.com · nber.org · ncaer.org · frontline.thehindu.com

Q19

15 marks · 250 words

Critically examine

Critically examine the challenges of demographic transition in contemporary India.

Introduction. Demographic transition denotes the shift from high fertility and mortality to low fertility, mortality and ageing. India is simultaneously experiencing a demographic dividend and its exhaustion: SRS 2023 places TFR at 1.9, below replacement fertility (2.1).

Uneven and incomplete transition

- Fertility is spatially polarised: urban TFR is 1.5 while rural TFR is 2.1. High-fertility northern States and low-fertility southern States therefore face sharply different demands for schools, jobs and geriatric care.
- Falling mortality without commensurate public health investment produces a dual burden: maternal-child undernutrition and infectious diseases coexist with diabetes, cardiovascular disease and disability.
- Gender bias persists through son preference, unpaid care work and low female labour-force participation; lower fertility does not automatically yield women's autonomy or a larger productive workforce.

Dividend can become a liability

- A large working-age cohort is an opportunity only if it is educated, healthy and productively employed. Informal work, skill mismatch, youth unemployment and the digital divide can convert it into social frustration rather than growth.
- Internal migration supplies labour to cities but strains affordable housing, water, sanitation and portable social protection. The One Nation One Ration Card model needs wider integration with health, childcare and labour benefits.

- Regional demographic asymmetry complicates fiscal transfers and future delimitation: low-fertility States fear loss of parliamentary representation despite earlier success in family planning.

Ageing before prosperity

- Sub-replacement fertility presages labour shortages and a rising old-age dependency ratio. Elderly persons, especially widowed women, face inadequate pensions, long-term care and age-friendly infrastructure.
- Greater demand for healthcare and social security will strain State finances where tax bases and formal pension coverage remain limited.

Conclusion. India must treat population change as differentiated human-capital planning, not population control. Cooperative federal targets, universal reproductive choice, quality schooling, women's paid work, preventive health and a financed National Programme for Health Care of the Elderly can convert the remaining dividend into resilient ageing.

Sources: thehindu.com · thehindu.com · blog.cpsindia.org · ncaer.org · aljazeera.com · carnegieendowment.org · frontline.thehindu.com · livemint.com

Q20

15 marks · 250 words

Evaluate

Evaluate the impact of globalization on Indian youths with reference to social, political, economic and cultural spheres.

Introduction. Globalisation—the post-1991 integration of India with global markets, media, technology and institutions—has most intensely shaped youth (15–29 years under the National Youth Policy, 2014). Its outcome is enabling, but uneven across class, gender, language and digital access.

Expanded capabilities and aspirations

- **Economic:** IT/ITES, start-ups, global value chains and remote work have widened skilled employment, entrepreneurship and exposure to international standards. Skill India and the Startup India ecosystem seek to convert this exposure into enterprise.
- **Social-cultural:** Global education, travel and social media have increased individual choice, gender sensitisation and awareness of mental health. Youth simultaneously consume K-pop or global fashion and revive regional music, food and handloom—cultural hybridisation rather than simple westernisation.
- **Political:** Digital platforms reduce entry barriers to public debate; global campaigns such as #MeToo and climate action have strengthened youth-led rights-based mobilisation.

Costs and distortions

- **Economic:** Benefits concentrate among English-speaking, urban and digitally connected youth. PLFS 2023-24 reported 10.2% unemployment among 15–29-year-olds; platform work often entails insecure incomes and weak social security.
- **Social-cultural:** Consumerism, body-image anxiety and homogenised popular culture can weaken community ties and generate identity conflict. The digital divide reinforces rural, gender and caste

inequalities.

- **Political:** Algorithmic echo chambers, misinformation and foreign-platform data concentration can polarise young citizens and impair informed exercise of Article 19(1)(a) freedoms.

Evaluation and policy response

- Globalisation is beneficial when capability-enhancing, not when it merely imports consumption or precarious work. NEP 2020-linked multilingual skills, industry apprenticeships, portable social security for gig workers, and implementation of the Digital Personal Data Protection Act, 2023 are necessary correctives.

Conclusion. India should harness global networks for decent jobs, scientific learning and constitutional citizenship. A digitally literate, locally rooted and socially protected youth can convert globalisation into a demographic dividend rather than an unequal cultural and economic disruption.

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