

Q1.

Underline the cultural and ecological significance of sacred groves and ancient trees in India. How does scientific dating of natural heritage sites enrich our understanding of historical landscapes?

Word limit: 150 words

10 marks

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Q1.

Question 1 - continued

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Q2.

With suitable examples, discuss how traditional water structures like temple Kunds integrated hydraulic engineering with sacred geography. Why are they vital for modern rainwater harvesting?

Word limit: 150 words

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Q2.

Question 2 - continued

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Q3.

Critically examine how the Ancient Monuments and Archaeological Sites and Remains (AMASR) Act balances heritage conservation with local development. What reforms can enhance community-led preservation?

Word limit: 250 words

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Q3.

Question 3 - continued

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Q3.

Question 3 - continued

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Q4.

Critically analyse the socio-cultural barriers and stigma associated with tuberculosis in rural India. How do these factors gender-disadvantage women in accessing timely healthcare services?

Word limit: 250 words

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Question 4 - continued

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Question 4 - continued

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Q5.

Critically examine how the state balances its secular regulatory powers over temple assets with the fundamental right to manage religious affairs under Article 26.

Word limit: 250 words

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Question 5 - continued

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Question 5 - continued

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Q6.

Critically discuss the administrative challenges in achieving seamless inter-sectoral coordination between animal, human, and wildlife health departments during pandemic outbreaks in India.

Word limit: 250 words

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Question 6 - continued

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Question 6 - continued

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Q7.

Critically examine how the mandatory public procurement policy has transformed Dalit capitalism. Why is the MSME Sambandh portal critical for ensuring compliance by Central Public Sector Enterprises?

Word limit: 250 words

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Question 7 - continued

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Question 7 - continued

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Q8.

Why are institutional skill mobility partnerships vital for addressing demographic imbalances and skill shortages in advanced economies? Comment.

Word limit: 150 words

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Q8.

Question 8 - continued

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Q9.

Why is the Supply Chain Resilience Initiative (SCRI) crucial for counterbalancing Indo-Pacific supply disruptions in critical minerals and semiconductors? Critically analyse.

Word limit: 250 words

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Question 9 - continued

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Question 9 - continued

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Q10. Examine how stringent Sanitary and Phytosanitary (SPS) measures of developed nations act as non-tariff barriers for Indian seafood exports. Suggest mitigation strategies.

Word limit: 250 words

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Q10.

Question 10 - continued

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Question 10 - continued

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Q11.

Point out the structural bottlenecks in credit flow to SC/ST entrepreneurs. How does the Venture Capital Fund for Scheduled Castes (VCF-SC) address this equity gap?

Word limit: 150 words

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Q11.

Question 11 - continued

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Q12.

How does robust dataset governance ensure the development of trustworthy and human-centric artificial intelligence? Explain with contemporary examples.

Word limit: 150 words

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Question 12 - continued

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Q13.

Underline the scientific significance of conserving wild crop relatives in-situ over ex-situ gene banks. How do wild progenitors aid in developing climate-resilient agriculture?

Word limit: 150 words

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Question 13 - continued

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Q14.

Point out how rapid molecular diagnostics like NAAT have revolutionized tuberculosis detection in India. What are the challenges in tackling multi-drug resistant TB?

Word limit: 150 words

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Question 14 - continued

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Q15.

Explain how Accelerator Mass Spectrometry (AMS) overcomes the limitations of traditional tree-ring dating in tropical regions. Why is calibration using tools like IntCal20 essential for accurate chronological mapping?

Word limit: 150 words

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Question 15 - continued

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Q16.

Point out how blockchain-based traceability solutions can help Indian seafood exporters comply with global Hazard Analysis Critical Control Point (HACCP) standards.

Word limit: 150 words

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Question 16 - continued

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Q17. Explain how environmental DNA (eDNA) and genetic barcoding revolutionize the mapping of rare and elusive herpetofauna in high-altitude terrains.

Word limit: 150 words

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Question 17 - continued

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Q18.

Critically examine how declaring ecologically fragile areas as Biodiversity Heritage Sites under the Biological Diversity Act, 2002, strengthens local-level conservation and protects community rights.

Word limit: 250 words

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Question 18 - continued

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Question 18 - continued

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Q19. Analyse how habitat fragmentation of chiropteran reservoirs accelerates zoonotic spillover. How can the integration of 'One Health' policy frameworks mitigate these recurring ecological risks?

Word limit: 250 words

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Question 19 - continued

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Question 19 - continued

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Q20. Critically discuss why existing legislative provisions under Section 67B of the IT Act struggle to deter the systemic proliferation of child sexual abuse material online.

Word limit: 250 words

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Question 20 - continued

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