Society & Social Justice · GS - III

The growing convergence of cloud computing and artificial intelligence is transforming the global technology industry. Examine its opportunities and challenges for India's digital economy.

EXAM YEAR	PAPER	SUBJECT
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MARKS	WORD LIMIT
10	~150 words

Answer Hint

Cloud infrastructure, AI computing, data sovereignty, digital public infrastructure, technological dependence, cybersecurity, domestic innovation, skilled workforce.

Model Answer

Introduction

Cloud computing provides scalable digital infrastructure, while artificial intelligence uses this infrastructure to develop advanced applications. Their convergence is reshaping economic productivity and technological competition.

Opportunities for India

Cloud-based AI can improve healthcare, education, agriculture, financial services and public administration. It enables startups and MSMEs to access advanced computing resources without substantial infrastructure investment. India's digital public infrastructure and skilled technology workforce provide a strong foundation for innovation.

Key Challenges

Dependence on foreign cloud providers may create concerns regarding data sovereignty, strategic autonomy and vendor lock-in. High computing costs, semiconductor dependence, cybersecurity threats and unequal digital access may further widen technological disparities.

Way Forward

India should strengthen domestic data-centre capacity, semiconductor manufacturing, indigenous AI research and secure cloud infrastructure. Interoperability, robust data protection and public-private partnerships are equally important.

Conclusion

Integrating cloud computing with AI can accelerate India's digital transformation, provided technological innovation is accompanied by security, accessibility and strategic autonomy.

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