Science & Technology · GS - III

Global technology disruptions have exposed the risks of excessive dependence on a single digital ecosystem. Examine the significance of digital sovereignty and indigenous software development for India's technological resilience.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 14/11/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Digital sovereignty, technology concentration, SaaS platforms, cloud infrastructure, cybersecurity, vendor lock-in, interoperability, domestic innovation, data governance, Digital India.

Model Answer

Introduction

Increasing dependence on global digital platforms has made economies vulnerable to technology disruptions. Large-scale software failures demonstrate the importance of resilient and diversified digital infrastructure.

Significance for India

- **Strategic autonomy:** Indigenous software reduces excessive dependence on external technology providers.
- **Business continuity:** Multiple service providers and interoperable systems minimise single-point failures.
- **Data governance:** Strong domestic capabilities can improve control over sensitive information.
- **Innovation ecosystem:** Domestic software development generates skilled employment and strengthens technological entrepreneurship.

Challenges

- **Technology gaps:** Indian firms require sustained investment in research, development and advanced infrastructure.
- **Global competition:** Established international platforms benefit from scale and extensive enterprise integration.
- **Cybersecurity:** Indigenous platforms also require rigorous security testing and continuous monitoring.

Way Forward

India should promote domestic software innovation, open standards, cloud diversification, cybersecurity audits and public procurement based on interoperability and performance.

Conclusion

Digital self-reliance should not mean technological isolation. India needs a diversified, secure and globally interoperable digital ecosystem that strengthens resilience and strategic autonomy.

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