Science & Technology · GS - III

The rapid development of artificial intelligence has intensified global technological competition while raising concerns about data security and national security. Examine these challenges and suggest measures for India.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 20/10/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Generative AI, data privacy, cybersecurity, technological competition, strategic autonomy, AI governance, indigenous research, digital infrastructure, innovation and accountability.

Model Answer

Introduction

Artificial intelligence is transforming economic activity, public services and strategic competition. The emergence of cost-efficient AI models demonstrates its disruptive potential while raising concerns about privacy, cybersecurity and technological dependence.

Major Challenges

1. **Data security:** AI applications may process sensitive personal, commercial or government information.
2. **National security:** Vulnerabilities in software and data infrastructure can create risks for critical systems.
3. **Economic disruption:** Rapid technological advances can affect established companies, employment patterns and investment decisions.

4. **Strategic dependence:** Reliance on foreign AI models, computing infrastructure and semiconductor supply chains may constrain technological autonomy.

Measures for India

- **Risk-based regulation:** Establish proportionate safeguards for sensitive and high-risk AI applications.
- **Data protection:** Enforce privacy safeguards, access controls and secure data-handling practices.
- **Domestic innovation:** Support Indian AI research, semiconductor capabilities and affordable computing infrastructure.
- **Public-sector security:** Assess AI tools before deployment on government systems and restrict access to sensitive information.
- **Responsible AI:** Promote transparency, human oversight, accountability and independent security testing.

Conclusion

India should pursue technological innovation without compromising privacy or national security. A balanced strategy combining domestic capabilities, international cooperation and responsible governance can strengthen its AI ecosystem.

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