Science & Technology · GS - III

Data centres have become critical infrastructure in India's digital economy. Examine the importance of strengthening their physical and cyber security, with particular reference to fire safety regulations.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 30/10/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Digital infrastructure; data centres; physical security; fire prevention; cybersecurity; business continuity; regulatory compliance

Model Answer

Introduction

Data centres are essential to India's digital economy, supporting cloud computing, financial services, e-governance and artificial intelligence. Their disruption can affect businesses, public services and sensitive information.

Importance of Data Centre Safety

1. **Protection of Critical Infrastructure:** Fire incidents can damage servers, power systems and communication networks, disrupting essential digital services.
2. **Data and Asset Security:** Automated detection and suitable suppression systems can minimise physical damage and reduce the risk of data loss.
3. **Business Continuity:** Redundant power, backup facilities and disaster recovery mechanisms help maintain uninterrupted operations.

4. **Regulatory Compliance:** Periodic safety audits and adherence to fire standards strengthen accountability and institutional preparedness.

Challenges and Way Forward

Data centres face risks from electrical faults, overheating, inadequate ventilation and human error. Telangana's reported fire safety measures highlight the need for specialised standards. States should strengthen inspections, emergency response protocols, staff training and coordination with fire services. Facilities should also adopt cybersecurity safeguards, secure backup systems and regular risk assessments.

Conclusion

A resilient digital economy requires both cyber and physical security. Comprehensive safety standards can protect critical infrastructure, public trust and economic continuity.

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