Science & Technology · GS - III

Examine the cybersecurity challenges associated with cryptocurrency exchanges. Discuss the need for effective regulatory oversight and consumer protection in the digital asset ecosystem.

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

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Cryptocurrency exchanges; blockchain technology; cyberattacks; private-key security; digital asset protection; FIU-IND; anti-money laundering; regulatory oversight; investor protection

Model Answer

Introduction

Cryptocurrency exchanges facilitate the buying, selling and storage of digital assets. However, cyberattacks, compromised private keys and operational vulnerabilities expose users to significant financial risks.

Major Cybersecurity Challenges

- **Exchange vulnerabilities:** Centralised exchanges can become targets for hacking and unauthorised access.
- **Private-key theft:** Compromised credentials may result in irreversible transfers of digital assets.
- **Market volatility:** Security incidents can trigger panic selling and sharp fluctuations in cryptocurrency prices.
- **Cross-border operations:** Differences in regulatory frameworks complicate investigation and recovery of stolen assets.

Need for Regulatory Oversight

India's regulatory framework requires specified virtual digital asset service providers to comply with anti-money laundering obligations under the Prevention of Money Laundering Act, 2002. FIU-IND plays an important role in monitoring suspicious financial transactions.

Way Forward

- Strengthen cybersecurity audits, encryption and multi-factor authentication.
- Ensure transparent disclosure of reserves and custody arrangements.
- Establish effective incident-reporting and customer grievance mechanisms.
- Improve international cooperation to trace and recover stolen digital assets.
- Promote investor awareness about risks associated with digital assets.

Conclusion

A secure digital asset ecosystem requires technological safeguards, transparent operations and effective regulatory supervision to protect consumers and maintain financial stability.

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