Indian Economy · GS - III

The rapid expansion of artificial intelligence infrastructure is creating new challenges relating to capital intensity, energy requirements and financial sustainability. Examine the economic risks associated with large-scale investment in AI data centres.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 22/11/2026	GS - III	Indian Economy

MARKS	WORD LIMIT
15	~250 words

Answer Hint

AI infrastructure, capital expenditure, working capital, liquidity risks, GPU investments, data-centre economics, energy demand, credit exposure, economies of scale, financial sustainability.

Model Answer

Introduction

The expansion of generative AI has triggered substantial investment in GPUs, data centres and supporting infrastructure. However, the long gestation period between investment and revenue generation can create significant financial risks.

Major Economic Risks

1. **Capital intensity:** AI infrastructure requires substantial upfront investment in advanced chips, networking equipment, land and cooling systems.

2. **Working-capital pressure:** Delays in power connections, construction or commercial deployment can postpone revenue while financing and operating costs continue.

3. **Liquidity and credit risks:** Smaller cloud providers may struggle to service debt and meet operating expenses before achieving adequate utilisation.

4. **Technological obsolescence:** Rapid improvements in semiconductor technology may reduce the economic value of existing hardware.

5. **Energy constraints:** High electricity and cooling requirements can increase operating costs and restrict data-centre expansion.

Measures for Sustainable Growth

- Encourage phased and demand-linked infrastructure investment.
- Improve access to reliable electricity and energy-efficient cooling.
- Promote long-term financing and prudent debt management.
- Develop domestic semiconductor and data-centre capabilities.
- Strengthen competition and transparency in cloud infrastructure markets.
- Encourage renewable energy integration and efficient resource utilisation.

Conclusion

AI infrastructure can generate productivity gains and technological opportunities, but its expansion must be supported by viable financing, energy availability and realistic revenue expectations. Sustainable investment is essential to prevent financial stress and ensure long-term competitiveness.