Science & Technology · GS - III

Despite technological advancements, rural digital connectivity in India faces significant infrastructural and economic challenges. Examine these challenges and suggest measures to achieve inclusive digital connectivity.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 10/11/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Low population density, high infrastructure costs, difficult terrain, unreliable electricity, optical fibre, satellite broadband, Digital Bharat Nidhi, public-private partnerships, digital inclusion.

Model Answer

Introduction

Digital connectivity is essential for inclusive growth, e-governance, education and financial inclusion. However, expanding reliable internet access in rural India remains challenging because of geographical, infrastructural and economic constraints.

Major Challenges

- **Economic viability:** Low population density reduces commercial returns on telecom investments.
- **Geographical barriers:** Mountains, forests and remote settlements complicate fibre and tower deployment.
- **Power infrastructure:** Unreliable electricity affects network uptime.
- **Maintenance costs:** Remote locations increase operational and repair expenses.

- **Administrative hurdles:** Land permissions and coordination delays slow infrastructure development.

Measures to Improve Connectivity

The BharatNet programme can strengthen village-level optical fibre infrastructure. Digital Bharat Nidhi should support connectivity in commercially unviable areas. Satellite broadband, renewable-powered telecom towers and public-private partnerships can address geographical and financial barriers. Affordable devices and digital literacy programmes are also necessary.

Conclusion

Rural connectivity requires an integrated approach combining infrastructure investment, appropriate technology and affordable services to bridge India's digital divide.

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