

Science & Technology · GS - III

Examine the growing role of private satellite communication networks in modern warfare. What challenges do they pose for national security and strategic autonomy?

EXAM YEAR

DAILY PRACTICE 23/10/2026

PAPER

GS - III

SUBJECT

Science & Technology

MARKS

10

WORD LIMIT

~150 words

Answer Hint

Satellite Communication, Low Earth Orbit, Commercial Space Technology, Modern Warfare, Digital Connectivity, Strategic Dependence, Cybersecurity, Electronic Warfare, Space Militarisation, National Security.

Model Answer

Introduction:

The restoration of Starshield satellite services in Ukraine highlights the growing importance of commercial space technology in contemporary military operations.

Role in Modern Warfare

1. Battlefield connectivity: Satellites support communication between military units in areas where terrestrial networks are damaged.
2. Operational coordination: They facilitate information sharing, surveillance and command-and-control functions.
3. Resilience: Distributed satellite networks can provide alternative communication channels during infrastructure disruptions.

Key Challenges

Strategic dependence: Military operations may rely on decisions made by private companies.

1. Cybersecurity threats: Satellite networks can be targeted through hacking, jamming and electronic warfare.
2. Geopolitical influence: Corporate decisions may affect the operational capabilities of states involved in conflicts.
3. Regulatory concerns: Questions arise regarding accountability, service continuity and international law.
4. Way Forward: Governments should develop clear public-private defence frameworks, strengthen cybersecurity, diversify communication infrastructure and invest in indigenous satellite capabilities.

Conclusion:

Commercial satellite networks offer significant military advantages, but countries must balance technological benefits with operational security and strategic autonomy.