Defence & Security · GS - III

Analyse how the increasing use of unmanned maritime systems is transforming naval warfare and challenging traditional concepts of maritime security. What measures should India adopt to protect its maritime interests?

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 23/11/2026	GS - III	Defence & Security

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Unmanned surface vehicles, asymmetric warfare, naval modernisation, maritime domain awareness, coastal security, critical infrastructure, Indian Ocean Region, international maritime law

Model Answer

Introduction

The growing use of unmanned maritime systems, including autonomous surface and underwater vehicles, is changing the character of naval warfare. These technologies enable relatively low-cost platforms to threaten expensive naval assets over considerable distances.

Transformation of Naval Warfare

1. **Asymmetric capabilities:** Unmanned maritime drones allow smaller actors to challenge technologically advanced navies without deploying conventional warships.

2. **Extended operational reach:** Remote-controlled and autonomous systems can conduct surveillance and attacks far from their launch locations, expanding the geographical dimensions of conflicts.

3. **Cost asymmetry:** Relatively inexpensive unmanned platforms can impose substantial financial and operational costs on sophisticated naval vessels.

4. **Changing naval doctrines:** Conventional naval defence increasingly requires integrated detection, electronic warfare, counter-drone systems and layered protection.

5. **Strategic uncertainty:** Attribution difficulties and the possibility of attacks through proxy or remotely operated systems complicate escalation management.

Implications for India

1. **Indian Ocean security:** India's trade, energy supplies and strategic connectivity depend heavily on secure maritime routes.

2. **Critical infrastructure:** Ports, offshore energy installations, naval bases and undersea communication cables may face emerging technological threats.

3. **Regional stability:** The proliferation of maritime drones can intensify competition and insecurity across the Indian Ocean Region.

Measures Required

1. Strengthen maritime domain awareness through satellites, coastal radar networks and integrated surveillance.
2. Develop indigenous unmanned systems alongside effective counter-drone capabilities.
3. Improve coordination among the Navy, Coast Guard and maritime security agencies.
4. Enhance international cooperation, information sharing and compliance with international maritime law.

Conclusion

Unmanned maritime warfare requires India to move towards technology-driven, integrated maritime defence. Protecting sea lanes and critical infrastructure will be essential for safeguarding national security and economic interests.

BECOME IAS AI POWERED UPSC PREP