STUDY NOTES · BASIC CONCEPT

What Is Anti-Submarine Warfare (ASW)? What Is India's Maritime Strategic Interest?

Defence & Security

12 Oct 2026

1. What Is Anti-Submarine Warfare (ASW)?

Anti-Submarine Warfare refers to military operations undertaken to detect, track, deter and neutralise hostile submarines.

Its major components include:

1. Detection: Identifying the presence of a submarine using sonar and other sensors.
2. Tracking: Monitoring its location and movement.
3. Classification: Determining whether the detected underwater contact is a submarine or another object.
4. Engagement: Using appropriate weapons or operational measures to counter the threat.
5. ASW operations may involve warships, maritime patrol aircraft, helicopters, submarines and underwater sensors.

BECOME IAS
AI-Powered UPSC Preparation by ZINKPOT

2. What Is an Anti-Submarine Warfare Shallow Water Craft?

An ASW Shallow Water Craft is a naval vessel designed primarily for anti-submarine operations in coastal and relatively shallow waters.

Its potential roles include:

1. Detecting and tracking submarines near the coast.
2. Protecting ports, naval bases and coastal infrastructure.
3. Supporting coastal surveillance and maritime security.
4. Conducting patrols in strategically important near-shore waters.
5. These vessels complement larger warships and other maritime surveillance platforms.

3. Why Are Shallow Waters Strategically Important?

Shallow coastal waters are important because they contain ports, naval installations, offshore energy facilities and major shipping approaches.

Operating in such environments can be challenging because underwater conditions may complicate sonar detection and submarine tracking.

Specialised shallow-water craft help the Navy address these operational requirements.

4. What Is Sonar?

BECOME IAS
AI Powered UPSC Preparation by ZINKPOT

1. SONAR stands for Sound Navigation and Ranging.
2. It uses sound waves to detect and locate objects underwater.
3. There are two principal types:
4. Active sonar: Emits sound pulses and detects returning echoes.
5. Passive sonar: Listens for sounds generated by underwater objects, including machinery and propellers.
6. Sonar is a critical technology for submarine detection and anti-submarine warfare.

5. What Is the Difference Between Shallow-Water and Deep-Sea Naval Operations?

Basis	Shallow-water operations	Deep-sea operations
Operating area	Coastal and near-shore waters	Open ocean and deeper waters
Main concerns	Coastal threats, ports and underwater detection challenges	Long-range operations and ocean-area threats
Typical platforms	ASW shallow-water craft and coastal patrol vessels	Destroyers, frigates, submarines and other blue-water platforms

Basis	Shallow-water operations	Deep-sea operations
Strategic role	Coastal defence and near-shore security	Wider maritime presence and protection of sea lines of communication

These roles overlap, and different naval platforms operate together as part of an integrated maritime force.

6. What Is Indigenous Defence Manufacturing?

Indigenous defence manufacturing means designing, developing or producing defence equipment within the country, with varying degrees of domestic technology and component content.

Its benefits include:

1. Reducing dependence on foreign suppliers.
2. Strengthening domestic shipyards and defence industries.
3. Creating employment and technical expertise.
4. Improving maintenance and lifecycle support.
5. Enhancing strategic autonomy during international crises.
6. However, genuine self-reliance also requires domestic expertise in critical technologies, engines, sensors, electronics and weapons systems.

7. What Is Maritime Security?

Maritime security involves protecting a country's maritime territory, coastal infrastructure, shipping routes and ocean-based economic activities from threats.

Major threats include:

1. Hostile submarines and naval incursions.
2. Piracy and armed robbery at sea.
3. Smuggling and trafficking.
4. Maritime terrorism.
5. Illegal, unreported and unregulated fishing.
6. Threats to ports, offshore installations and commercial shipping.

7. For India, maritime security is particularly important because of its long coastline and dependence on maritime trade and energy supplies.

8. What Is India's Maritime Strategic Interest?

India's maritime interests include:

1. Protecting its coastline and island territories.
2. Securing sea lines of communication.
3. Protecting merchant shipping and energy imports.
4. Safeguarding offshore resources and critical infrastructure.
5. Maintaining stability in the Indian Ocean Region.
6. Strengthening cooperation with maritime partners.

The Indian Navy, Indian Coast Guard and other relevant agencies contribute to these objectives through complementary responsibilities.

BECOME IAS
AI-Powered UPSC Preparation by ZINKPOT

9. What Is Strategic Autonomy?

Strategic autonomy is a country's ability to make independent decisions on national security and foreign policy without excessive dependence on external powers.

Indigenous naval shipbuilding can support strategic autonomy by reducing reliance on foreign suppliers for critical defence platforms, spare parts and maintenance.

However, strategic autonomy also depends on access to advanced technology, skilled personnel, research capabilities and reliable supply chains.

UPSC Syllabus Relevance

General Studies Paper II

- India's neighbourhood and international relations.

- Bilateral and multilateral maritime cooperation.
- Regional security in the Indian Ocean Region.

General Studies Paper III

- Defence technology and indigenous manufacturing.
- Internal and external security challenges.
- Maritime security and critical infrastructure protection.

Key Takeaway: INS Mangrol provides a useful context for understanding coastal anti-submarine warfare, maritime security and indigenous defence manufacturing. For factual questions about the vessel's specifications, weapons, commissioning date and shipyard, aspirants should verify the official Indian Navy announcement rather than rely on assumptions.

BECOME IAS
AI-Powered UPSC Preparation by ZINKPOT