

# INS Kalvari

The Kalvari class is an indigenous class of diesel-electric attack submarines based on the Scorpene-class submarine built for the Indian Navy. Students preparing for the IAS Exam must be aware of this and topics related to it, as Science and Technology, which is a part of General Studies Paper 3, is an important and dynamic segment in the UPSC preparation.

## Why was 'Kalvari' named so?

'Kalvari' translates to 'a deep-sea tiger shark' in the Malayalam language. It is an apt name for a submarine that represents strength, agility and predatory power just like its namesake. It is the first Scorpene-class submarine to be made in India. The name is borrowed from India's first submarine commissioned in 1967.

To know more about INS Kandheri, visit the linked article

## Where was 'Kalvari' built?

INS Kalvari is an indigenously built submarine. The submarine was built by the Mazagon Docks Limited, located in Mumbai, Maharashtra with technology transfer and assistance from DCNS (French industrial group specialised in naval defence and energy). Mazagon Docks Limited is a shipyard owned by the Ministry of Defence. Kalavari was designed by DCNS in collaboration with Mazagon Dock Limited. INS Kalvari was delivered to the Indian Navy on 21 September 2017 after successful completion of sea trials. She was commissioned by Indian Prime Minister Narendra Modi on 14 December 2017 at Mazagon Dock Limited.

To know more about the Armed Forces of India, visit the linked article

## Facts about INS Kalvari

- INS Kalvari is the first submarine to join the Indian Navy in 17 years.
- It is the first conventional submarine to be inducted into the Indian Navy, post-induction of INS Sindhurashtra, procured from Russia in 2000.
- It is the most modern non-nuclear stealth submarine to be inducted into the Indian Navy.
- The submarine symbolises predatory power, strength and agility.
- The spirit of INS Kalvari is shown in its motto "Ever onward".

- INS Kalvari is said to be quieter than most submarines, making it difficult to detect it underwater.

## Specifications of INS Kalvari

- It is built with a sophisticated Integrated Platform Management System and a highly advanced Combat Management System.
- It has an extremely silent Permanently Magnetised Propulsion Motor.
- It produces minimum underwater resistance due to the design of its hydroplanes, fin and hull form.
- The equipment is mounted inside the pressure hull on shock absorbing cradles in order to enhance its stealth capability.
- The Submarine Tactical Integrated Combat System (SUBTICS) suite will process the information from the sonars on-board. This will help in target detection which could then be engaged with missiles or torpedoes.
- It is armed with Exocet anti-ship missiles, modern sensor suite and heavyweight torpedoes.
- Mobile anti-torpedo decoys are installed in INS Kalvari for self-defence. The torpedoes can be launched both when on the surface and while submerged.
- It has an attack-and-search periscope that is equipped with infrared, low light level cameras and laser range finders which help in spotting targets on the sea surface.
- The submarine is designed to undertake mine laying, area surveillance, intelligence gathering, anti-surface warfare and anti-submarine warfare.
- INS Kalvari is 67.5 meters long and 12.3 meters high.
- It has a displacement capacity of 1600 tonnes and weighs 1565 tonnes.

A brief overview about the specifications of the submarine is given in the table below:

Specifications of INS Kalvari	
<b>Class and Type</b>	Kalvari
<b>Displacement</b>	<ul style="list-style-type: none"> <li>• <b>Surfaced:</b> 1,615 tonnes (1,780 short tons)</li> <li>• <b>Submerged:</b> 1,775 tonnes (1,957 short tons)</li> </ul>
<b>Length</b>	67.5 m
<b>Beam</b>	6.2 m
<b>Height</b>	12.3 m
<b>Draught</b>	5.8 m

<b>Speed</b>	<ul style="list-style-type: none"> <li>• <b>Surfaced:</b> 11 kn (20 km/h)</li> <li>• <b>Submerged:</b> 20 kn (37 km/h)</li> </ul>
<b>Electronic Warfare</b>	C303/S anti-torpedo countermeasure system
<b>Armament</b>	6 x 533 mm (21 in) torpedo tubes for 18 SUT torpedoes OR SM.39 Exocet anti-ship missiles 30 mines in place of torpedoes

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UPSC Questions related to INS Kalvari

What is INS Kalvari?

The Kalvari class is an indigenous class of diesel-electric attack submarines based on the Scorpene-class submarine built for the Indian Navy. Kalvari means 'a deep-sea tiger shark' in the Malayalam language.

What is a Scorpene class submarine?

A class of diesel-electric attack submarines jointly developed by the French Direction des Constructions Navales (DCNS) and the Spanish company Navantia, and now by the Naval Group are called Scorpene class submarines. Scorpene class submarines feature diesel propulsion and additional air-independent propulsion (AIP).

What are the dimensions of INS Kalvari?

The scorpene class submarine INS Kalvari is 67.5 meters long and 12.3 meters tall. It has a displacement capacity of 1600 tonnes and weighs 1565 tonnes.