INS Karanj - Scorpene-class Submarine

Why in news?

The Indian Navy inducted its third Scorpene-class conventional diesel electric submarine, INS Karanj, into service.

What are Scorpene-class submarines?

- The Scorpene class submarines are one of the most advanced conventional submarines in the world.
- They were designed by French naval shipbuilding firm DCNS in partnership with Spanish shipbuilding firm Navantia.
- The submarine has superior stealth features, such as -
    i. advanced acoustic silencing techniques
    ii. low radiated noise levels
    iii. ability to attack with precision-guided weapons on board
- The Indian Navy intends to use them for missions such as area surveillance, intelligence gathering, anti-submarine warfare, anti-surface warfare and minelaying operations.
- The submarines are armed with six torpedo-launching tubes, 18 heavy weapons, tube-launched MBDA SM-39 Exocet anti-ship missiles and precision-guided weapons.
- It can launch crippling attacks on surface and underwater enemy targets.
- Moreover, the attack submarines can travel at a maximum submerged speed of approximately 20 knots.
- They have the ability to remain submerged for 21 days.
- It has a diving depth of more than 350m.

What are the other Scorpene-class submarines?

- The first submarine of the class, INS Kalvari, was commissioned in December 2017.
- The second, INS Khanderi, was commissioned in September 2019.
- A fourth submarine, Vela, was launched into the water in May 2019 and the fifth, Vagir, in November 2020, and both are undergoing sea trials.
- The sixth is in an advanced stage of outfitting.

What are the special features of INS Karanj?

- Karanj has been equipped with the best sensors in the world.
- It is fitted with an integrated platform management system to provide centralised propulsion and machinery control.
- The powerful diesel engines can quickly charge batteries for a stealthy mission profile.
- Also, its modular construction enables upgradation to air independent propulsion in future.
- It is fitted with a permanent magnetic synchronous motor, making it one of the quietest submarines in the world.
- Karanj is also said to be the first truly indigenous submarine.

What is the history of Karanj?

- The earlier version of the submarine, which belonged to the Foxtrot class, was first commissioned in 1969 at Riga in the erstwhile USSR.
- A proposal to form a submarine arm, also referred to as the silent arm, of the Indian Navy was first envisaged in 1959.
- It was only in 1964 that the Soviet government agreed for transfer by purchase of four Foxtrot-class submarines, of which INS Karanj was a part.
- All the four constituted the 8th Submarine Squadron and played a key role during the 1970-71 Indo-Pak war.

Source: The Indian Express

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