B-2 Stealth Bomber

Why in news?

Recently, the United States used B-2 bombers to target Iranian nuclear sites at Fordow, Natanz, and Esfahan.

- **B-2 Stealth Bomber** – It is an American heavy strategic bomber that uses low-observable stealth technology that can penetrate dense anti-aircraft defences.
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- It entered service in 1997, and considered as a backbone of US strategic deterrence
- It is built by Northrop Grumman, which is a U.S based global aerospace, defense and security company.
- It is operated exclusively by the United States Air Force.
- **Most expensive aircraft** – The cost of a single B-2 Stealth Bomber is estimated to be around $2.1 billion (USD).
- **Advanced long-range bomber –** The B-2 Spirit is a long-range, heavy-payload stealth bomber.
- **Stealth technology –** It has extremely low radar visibility due to its flying-wing design, radar-absorbent materials, and reduced infrared signature.
- Its radar cross-section is comparable to that of a small bird (around 0.001 square meters).
- **Operational capabilities** – It can travel up to 6,000 nautical miles without refuelling.
- **All-altitude capability** – It is capable of operating at nay altitude in precision and also high-altitude operations.
- **Massive payload capacity –** It can carry conventional and nuclear weapons, including the Massive Ordnance Penetrator (MOP) or bunker-buster bombs.
- It is the only aircraft capable of carrying Massive Ordnance Penetrator (Bunker Buster bombs).

Massive Ordnance Penetrator (MOP) or Bunker Buster Bombs are designed to destroy deeply buried, hardened bunkers like those protecting nuclear facilities.

Other key features

- Flying-wing design with no tail.
- Range of ~6,000 nautical miles with time period of 44000 hours (extendable with mid-air refueling)
- Reduced infrared signature for minimal heat detection

Reference

[The Hindustan Times| B-2 Stealth Bomber]

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