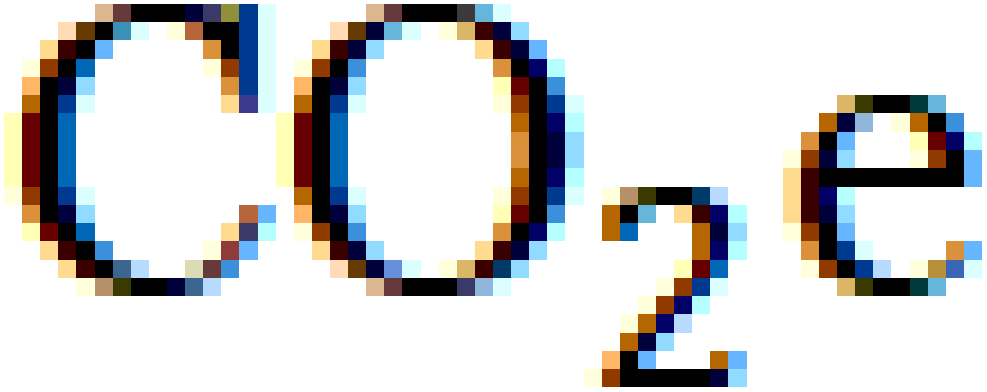
Agni-3

Why in News?

Recently, Agni-3 was successfully test-fired from the Integrated Test Range (ITR) at Chandipur, Odisha, by the Strategic Forces Command (SFC).

- It is an ***indigenously developed nuclear-capable Intermediate Range Ballistic Missile (IRBM).***
- **Developed By –** Defence Research and Development Organisation (DRDO).
- **Type –** A *surface-to-surface missile* mounted on a mobile launcher.
- **Role –** This strategic missile is a key part of India's nuclear deterrence and second-strike capability.
- It was inducted into the armed forces and has been *in service with SFC since 2011.*
- **Strike Range –** *3,000–3,500 km* with high accuracy and real-time trajectory tracking.
- **Flight Profile –** Follows a designated flight path and accurately hits the pre-decided target area.
- **Propulsion System –** Two-stage solid-propelled system.
- **Guidance system –** Agni-3 ***uses a strapdown inertial navigation system (INS) supported by GPS***, which helps the missile accurately reach its target.
- **Characteristics –** It is a nuclear delivery system, with an estimated warhead yield of 200–300 kilotons.
- **Length –** 17 metres.
- **Diameter –** 2 metres.
- **Accuracy –** About 40 metres Circular Error Probable (CEP).
- **Mass –** 11,000 kg, lighter than all earlier Agni series missiles.
- **Payload capacity –** 1.5 tonnes with road and rail mobile launch capability.
- **Agni series - Short & Medium Range (Agni-I, II & Prime)**
- **Agni-I** - Range 700–1,200 km) **and Agni-II** (2,000 km) are solid-fuel, mobile missiles designed for regional stability.
- **Agni-Prime**- Range 1,000–2,000 km features Encapsulated storage and advanced navigation to target mobile threats, including naval vessels.
- **Intermediate Capabilities (Agni-III) -** Moving into deeper strike roles, offer high precision.
- **Future Variants –**
  - **Agni-4** - range ~4,000 km, specifically utilizes 5th-generation avionics and Ring Laser Gyros to achieve sub-100-meter accuracy.
  - **Agni-5** - range ~5,000 km is a three-stage ICBM with a 5,500 km range, ensuring "fire-and-forget" capability across continents.



References

1. PIB | Agni-3
2. ToI | Agni-3
3. TH| Agni-3

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