



## Important Facts For Prelims (3rd June 2019)

### Indian Navy Steps Up Anti-piracy Patrol

- The Navy deployed its **P-8I long-range maritime surveillance aircraft** for **anti-piracy** sorties from Salalah in Oman to patrol the **Gulf of Aden** under its **Mission Based Deployments (MBD)** in the Indian Ocean Region (IOR),
- Under the MBD concept, the Navy maintains a ship at every choke point in the IOR at any point of time.

### P-8I Aircraft

The P-8I is a long-range anti-submarine warfare, anti-surface warfare, intelligence, surveillance and reconnaissance aircraft capable of broad-area, maritime and littoral operations.

[Download map](#)

### IIT Madras Develops New Material

- Recently, Indian Institute of Technology (IIT) Madras has developed a material with properties suitable for **quantum optoelectronics**.
- The materials like tungsten diselenide and molybdenum diselenide were being studied for their **opto-electronic properties - a combination of optics and electronics**.
- Researchers from IIT Madras have found a way of enhancing this property of these materials about 30 times in tungsten diselenide, by drop-casting gold nanoparticles on to a two-dimensional film.
- A key property of these materials is **photoluminescence** which can be used in various devices such as quantum LEDs which can be used in communication and computation.

**Photoluminescence:** Photoluminescence is a process in which a molecule absorbs a photon in the visible region, exciting one of its electrons to a higher electronic excited state, and then radiates a photon as the electron returns to a lower energy state.

**Optoelectronics:** Optoelectronics concerns the study and application of electronic devices that source, detect and control light.