



MoU for Cooperation on Satellite- Based Naval Applications

Why in News?

Recently, Memorandum of understanding (MoU) has been signed between the [Space Applications Centre \(ISRO\)](#) and the [Indian Navy](#) on data sharing and cooperation on Satellite-based Naval Applications in **Oceanology** and [Meteorology](#).

What are the Key Highlights of The MoU?

- It will **enhance collaboration** and would initiate a **common platform of mutual cooperation**.
- The scientific advancements by Space Applications Centre would be **synergized with the Indian Naval efforts to keep the nation's defence in step with rapid development in the field of Satellite Data retrieval and applications**.
- **Cooperation would include various dimensions:**
 - Sharing of non-confidential observational data.
 - Operational exploitation of Space Applications Centre (SAC)-generated **weather products and provisioning of Subject Matter Experts (SME) for the processing of satellite data towards the development of new tools**.
 - Providing Calibration and validation of ocean models.

What is Space Applications Centre?

- **About:**
 - **Space Applications Centre** is a major **research and development centre of the Indian Space Research Organisation (ISRO)**.
 - It is **situated in Ahmedabad** and performs multi-disciplinary activities.
 - The core competence of the Centre lies in the **development of space-borne and air-borne instruments/payloads** and their applications for national development and societal benefits.
 - These applications are in diverse areas and **primarily meet the communication, navigation, and remote sensing needs of the country**.
- **Achievements:**
 - The Centre also contributed significantly to scientific and planetary missions of ISRO like [Chandrayaan-1](#), **Mars Orbiter Mission**, etc.
 - The communication transponders developed at this Centre for **Indian National Satellite (INSAT)** and [Geo Synchronous Satellite \(GSAT\)](#) series of satellites are used by the government and private sector for VSAT, DTH, Internet, broadcasting, telephones, etc.

UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Satellites used for telecommunication relay are kept in a geostationary orbit. A satellite is said to be in such an orbit when: (2011)

1. The orbit is geosynchronous.
2. The orbit is circular.
3. The orbit lies in the plane of the Earth's equator.
4. The orbit is at an altitude of 22,236 km.

Select the correct answer using the codes given below:

- (a) 1, 2 and 3 only
(b) 1, 3 and 4 only
(c) 2 and 4 only
(d) 1, 2, 3 and 4

Ans: (a)

Exp:

- Satellites used for telecommunication relay are kept in a geostationary orbit. If this satellite is observed from a particular position on the ground, it remains stationary at the same spot. It plays an instrumental role in global communications and weather forecasting.
- A geo-synchronous orbit is an orbit around the Earth, which has an orbital period that matches the Earth's rotation, i.e., 24 hours. A geo-stationary orbit is a type of circular geo-synchronous orbit, which encircles the equator (i.e., directly above the equator). Hence, 1 is correct.
- **As the geo-stationary orbit lies directly over the equator and in the same plane as that of the Earth's equator, it encircles the Earth in a circular orbit. Hence, 2 and 3 are correct.**
- A geostationary orbit is 35,786 km (i.e., 22,236 miles) above the Earth's surface. Hence, 4 is not correct. **Therefore, option (a) is the correct answer**

[Source: PIB](#)

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