



Mains Practice Question

Q. Outer space is emerging as a potential fourth arm of any country's defence setup. Discuss the issues associated with outer space geopolitics and also suggest a way forward. (250 Words)

04 Jan, 2022 GS Paper 2 International Relations

Approach

- Introduce with explaining the first statement of the question ie. how outer space is emerging as a potential fourth arm of a country's defence setup.
- Discuss the issues associated with outer space geopolitics.
- Conclude by suggesting a way forward.

Answer

India's new strategic interest in outer space is based on a recognition of two important trends. One is the centrality of emerging technologies in shaping the 21st-century global order. The other is about the urgency of writing new rules for the road to peace and stability in outer space.

The US has traditionally dominated outer space in the commercial domain. Its military competition with Russia set the norms in the security field. China's emergence as a major space power — in both civilian and military — is reshaping astropolitics (geopolitics of outer space).

Issues Associated With Outer Space Geopolitics

- **Weaponisation of Space:** The militarisation and weaponisation of space are fundamentally at odds with constructive commercial and scientific projects. The war in space would destroy the intrinsic trust and cooperation necessary to maintain the systems deployed in space for peaceful purposes.
 - Despite these facts, the development projects for militarisation and weaponisation of outer space have been on the increase with the aim of one country.
- **Issue of Space Debris:** A satellite that is destroyed by a missile disintegrates into small pieces, and adds to the space debris. The free floating space debris is a potential hazard for operational satellites and colliding with them can leave the satellites dysfunctional.
 - With countries launching more and more satellites, each one of them being a strategic or commercial asset, avoiding collisions could become a challenge in the future.
- **Quest For Space Mining:** This quest for space mining will trigger a new era of conflict and cooperation and lead to a new space race.
 - According to the US Chamber of Commerce, the commercial space industry is estimated to be USD 1.5 trillion industry by 2040.
- **Moon Rush:** After the discovery of water on the moon and "Peaks of Eternal Light", the moon rush on the earth aimed at the lunar south pole, has become a new phenomenon. For example:
 - China's Chang'e 4 soft-landed in the Von Karman crater on the dark side of the south polar region.

- The US lunar programme now aims to put man back on the moon in the next decade.
- NASA's focus is on the south pole and if it succeeds, it will be the first manned crew to arrive at the south pole.
- Jeff Bezos (owner of Amazon) unveiled the Blue Moon project that seeks to land men and women on the moon in the next few years.

Way Forward

- **Collaboration of Public and Private Institution:** India needs to structurally separate the regulatory, commercial and scientific research elements of the space programme.
 - Funding on Space Research and development must be enlarged and ISRO & private research institutions should be encouraged to work in tandem.
 - There is a need to establish an independent regulator that governs both ISRO and new space operators on a level playing field.
- **Need For a Strong Regulatory Framework:** Delhi must also legislate a strong regulatory framework to promote India's space activity and protect its international interests.
 - India should take a hard look at the emerging challenges to the current space order, review some of its past political assumptions about the nature of outer space and contribute to the development of new global norms that will strengthen the essence of the Outer Space Treaty.
- In order to effectively defend our space assets, India must have **reliable and accurate capabilities to track space objects**, from debris and spacecraft to celestial bodies.
 - Since accurate tracking forms the basis of almost every conceivable action in space, therefore, this crucial capability must be developed indigenously.
- For space defence to be effective, **India must acquire a minimum, credible capacity** across the various types of space weapons, physical, electronic and cyber.

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