Outer Space Is Gaining Traction As a Possible Fourth Pillar of Any Country's Defense Strategy. Discuss the Difficulties of Outer Space Geopolitics and Make Recommendations Regarding How To Proceed. (250 words) (GS 2, International Issues)

India's renewed strategic interest in space is based on the understanding of two key themes. One is the importance of developing technologies in defining the global order of the twenty-first century. The other is the pressing need to write new laws for achieving peace and stability in space.

In the commercial realm, the United States has always dominated outer space. Its military competition with Russia established security standards. China's rise as a major space power, both civilian and military, is changing the face of astropolitics (geopolitics of outer space).

Geopolitics of Outer Space: Problems and Solutions

Militarization and weaponization of space are inherently at odds with productive economic and scientific endeavours. The innate trust and cooperation required to maintain the systems deployed in space for peaceful reasons would be destroyed by a space conflict.

Despite these facts, development programmes for the militarization and weaponization of outer space, with the goal of a single country, have been on the rise.

The Problem of Space Debris: A missile-killed spacecraft disintegrates into microscopic fragments, adding to the space trash. Free-floating space debris poses a threat to functioning spacecraft, because colliding with it can render the satellites inoperable.

With more governments launching satellites, each one a strategic or economic asset, preventing collisions may grow increasingly difficult in the future.

The Search for Space Mining: The search for space mining will usher in a new period of conflict and collaboration, and a new space race.

The commercial space industry is expected to be worth USD 1.5 trillion by 2040, according to the US Chamber of Commerce.

The moon rush on the earth, targeted at the lunar south pole, has become a new phenomena after the discovery of water on the moon and "Peaks of Eternal Light." China's Chang'e 4 spacecraft, for example, landed softly in the Von Karman crater on the dark side of the south polar region.

The United States' lunar programme now hopes to return a man to the moon within the next decade.

NASA is concentrating on reaching the south pole, and if it succeeds, it will be the first manned crew to do it.

Amazon CEO Jeff Bezos announced the Blue Moon initiative, which aims to place men and women on the moon within the next few years.

Collaboration between Public and Private Institutions in the Future: India's space programme needs to be structurally separated into regulatory, commercial, and scientific research parts.

Space research and development funding should be increased, and ISRO and private research organisations should be encouraged to collaborate.

It is necessary to establish an impartial regulator that will regulate both ISRO and emerging space operators on an equal footing.

Need for a Robust Regulatory Framework: To boost India's space activity and preserve its foreign interests, Delhi must also enact a strong regulatory framework.

India should examine the increasing threats to the current space order, revisit some of its previous political assumptions about the nature of space, and contribute to the formulation of new global rules that would enhance the Outer Space Treaty's core principles.

India needs reliable and accurate tracking capabilities to properly defend its space assets, including debris, spacecraft, and celestial bodies.

Because precise tracking is the foundation of practically every possible action in space, this critical capacity must be created in-house.

To be effective in space defence, India must have a minimum, credible capability in all three types of space weapons: physical, electronic, and cyber.