Indian Space Policy 2023

For Prelims: Indian Space Policy 2023, NewSpace India Limited, IN-SPACe, SAMVAD Program, Defence Space Agency (DSA), Starlink-SpaceX, Space debris, Weaponization of outer space, Project NETRA.

For Mains: Challenges Related to Space Sector, Enhancing Space Self-Defence Capacities, Space 4Women in India.

Why in News?

The **Indian Space Policy 2023** was approved by the **Cabinet Committee on Security.** The policy **seeks to institutionalise** private sector participation in the space sector, with ISRO focusing on **research and development of advanced** space technologies.

What are the Major Provisions of Indian Space Policy 2023?

- **About:**
  - The policy will pave the **way forward with much-required clarity in space reforms** and augment private industry participation to drive the space economy opportunity for the country.
- **Delineation of Roles:**
  - The policy delineates the roles and responsibilities of **Indian Space Research Organisation (ISRO)**, **space sector PSU** NewSpace India Limited (NSIL), and Indian National Space Promotion and Authorization Center **(IN-SPACe).**
  - **Strategic activities related to the space sector will be carried out by NSIL**, which will work in a demand-driven mode.
  - **IN-SPACe** will be the interface between **ISRO and non-governmental entities.**
  - **ISRO** will **focus its energies on developing new technologies,** new systems and research and development.
  - The operational part of ISRO's missions will be moved to the **NewSpace India Limited.**
- **Entry of Private Sector:**
  - The policy will allow the **private sector to take part in end-to-end space activities** that include building satellites, rockets, and launch vehicles, data collection and dissemination.
  - The **private sector can use ISRO facilities** for a small charge and is encouraged to invest in creating new infrastructure for the sector.
- **Impact:**
  - The policy will help India increase its share in the global space economy substantially from less than **2% to 10% in the future.**

What is the Current Status of India’s Space Sector?

- **About:**
  - The **Indian Space Sector has been globally recognised for building cost-effective satellites**, and now India is even taking foreign satellites to space.

    - As part of **India's commitment to the** Geneva Conference **on Disarmament,** the country continues to advocate peaceful and civilian use of outer space and oppose any weaponization of space capabilities or programs.
    - ISRO is the **6th largest space agency in the world** and holds an exceptional success rate.
        - With over **400 private space companies,** India ranks fifth globally in no. of space companies.
- **Recent Developments in India's Space Sector:**
    - **Defence Space Agency:** India has recently set up its Defence Space Agency (DSA) **supported by the Defence Space Research Organisation (DSRO)** that has the mandate to create weapons to **"degrade, disrupt, destroy or deceive an adversary's space capability".**
        - Also, the Indian Prime Minister launched the **Defence Space Mission** at the Defence Expo 2022, Gandhinagar.
    - **Expanding Satellite Manufacturing Capabilities:** India's satellite-manufacturing opportunity **will reach USD 3.2 billion by the year 2025** (in 2020 it was USD 2.1 billion)
    - **SAMVAD Program:** To encourage and nurture space research among young minds, ISRO launched its **Student Outreach Program called SAMVAD** at its Bengaluru facility.

What are Current Major Challenges Related to the Space Sector?

- **Lack of Regulations on Commercialisation:** The **commercialization of outer space** is accelerating due to the development of private satellite expeditions for **Internet services (**Starlink-SpaceX**) and for** space tourism.
    - It is possible that if **no regulatory framework is put in place,** rising **commercialisation may lead to monopolisation in the future.**
- **Rising Space Debris:** As outer space expeditions increase, **more** space debris **will accumulate.** Because objects orbit Earth at such high speeds, **even a small piece of space debris can damage a spacecraft.**
- **China's Space Leap:** Compared to other countries, the Chinese space industry has grown rapidly. It has **successfully launched its own navigation system,** BeiDou**.**
    - It is very likely that China's Belt Road Initiative (BRI) members will contribute to or join the Chinese space sector, **solidifying China's global position and may lead to** weaponization of outer space.
- **Increasing Global Trust Deficit:** An **arms race for weaponization of outer space is** creating an **environment of suspicion, competition, and aggressiveness** across the globe, potentially leading to conflict.
    - It would also **put at risk the entire range of satellites as well as those involved in scientific explorations** and communication services.

Way Forward

- **Defending India's Space Assets:** In order to effectively defend its space assets, including **debris and spacecraft,** India needs **reliable and accurate tracking capabilities.**
    - **Project NETRA**, an **early warning system** in space to detect debris and other hazards to Indian satellites is a good step in this direction.
- **Permanent Seat in Space:** India should take the **initiative to cooperate with international bodies** and plan for a **planetary defense program and joint space missions in the long term.**
    - Also, with the **Gaganyan mission**, **ISRO has begun to focus on manned space** flight as part of its rethinking of India's space presence.
- **Replicating Space4Women in India**: **Space4Women is a United Nations Office** for Outer Space Affairs (UNOOSA) project that promotes gender equality and women's empowerment in the space sector.
    - It would be beneficial to **initiate space awareness programmes at the rural level in India,** and **College-ISRO Internship corridors can be built specially for female students** to introduce them to the possibility of stretching their wagon beyond earth.
    - **AzaadiSAT**, **made by 750 schoolgirls** from India is a firm step in this direction.
- **Technological Intervention for Cleaner Space:** Technologies like **self-eating rockets, self-**

vanishing satellites and robotic arms to catch space debris can make India an explorer cum problem solver in the space arena.

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q.1 In the context of space technology, what is "Bhuvan", recently in the news? (2010)

(a) A mini satellite launched by ISRO for promoting the distance education in India
(b) The name given to the next Moon Impact Probe, for Chandrayaan-II
(c) A geoportal of ISRO with 3D imaging capabilities of India
(d) A space telescope developed by India

Ans: (c)

Mains

Q.1 What is India's plan to have its own space station and how will it benefit our space rogramme? **(2019)**

Q.2 Discuss India's achievements in the field of Space Science and Technology. How the application of this technology helped India in its socio-economic development? **(2016)**

Source: BS