



## Mains Practice Question

Q How India can harness the potential of Science and Tech-driven Diplomacy? (150 words)

25 Oct, 2022 GS Paper 2 International Relations

### Approach:

- Discuss in brief about tech-driven diplomacy and its significance.
- Challenges faced by tech-driven diplomacy.
- Discuss India's potential to leverage Tech-driven diplomacy.
- Conclude suitably.

### Introduction:

- Diplomacy has been a **tool of statecraft that addresses the objectives of the State nationally and internationally**. With time, diplomacy has gradually co-opted multiple disciplines as levers to achieve diplomatic goals. Tech-driven diplomacy means the **scientific inputs going into diplomacy** and foreign policy making.

### Body:

- **Significance of Tech-driven Diplomacy:**
  - Global challenges such as **weapons of mass destruction, climate change, cyber security, human health, energy and environment, outer space** etc., all require scientific inputs in order to understand and deal with them.
  - These challenges are **trans-border and require application of science and technology in order to resolve them** in addition to normal diplomatic efforts.
    - e.g **Intergovernmental Panel on Climate Change (IPCC)**.
  - It offers alternative channels of engagement among countries that may have **political differences**, thus playing an important role by influencing the dynamics of power-balance between sovereign nations.
  - It seeks to acquire science and technology knowledge **to strengthen national economy** and capacity and to participate more effectively in international discussions where science and technology are involved.
- **Challenges faced by tech-driven diplomacy:**
  - **Rise of Cyber-Warfare and Cyber-Armies:** Technology has changed the nature of warfare from visible **large-scale military action and violence to subtle, invisible yet decisive cyberwarfare** for crippling the enemy's information environment in a war-like situation.
  - **Threat of Bioweapons:** With advances in **biotechnology, microbiological agents (such as bacteria, viruses, or fungi)** can be used as **biological weapon** to intentionally cause harm to humans, animals, or plants in case of conflict and war.
  - **Data Privacy Concern: Big data** is often perceived as the **black gold of the 21st century**.
    - As the Internet allows for the aggregation and globalisation of markets and consumers, **cross-border data flow** is becoming a contested issue of **data privacy** and **global governance**.

- **With rise of India as a technological powerhouse, it's potential could be leveraged through collaborating on tech-driven infrastructure like:**
  - **Unifying World with Unified Payment System:** The **Unified Payment Interface (UPI)** has proved a tectonic shift in the payments system for India.
    - An open and multilateral digital system of payments that has been developed in India **can be pushed for adoption in different countries.** This can serve as a **perfect soft power opportunity.**
    - A key diplomatic win would be when **India's existing digital payments system becomes a globally accepted standard.** This is already underway, with four countries (**Nepal, Bhutan, Singapore and UAE**) having accepted and using India's payments system.
- **Public Health Space:** In terms of global presence, India remains the **world's largest supplier of generic medicines and drugs, accounting for 20%** of the global demand. India has also been at the forefront of vaccine manufacturing and **Vaccine diplomacy.**
  - This has made India a **torchbearer in the public health space** forging new ties around. **More incentive for Research and Development** activities can **improve India's soft power in terms of global health cooperation.**
- **Science Tourism:** India can **conceptualise science tourism** promoting scientific locations around the nation like **National Science Centre, Delhi and Birla Science Museum, Hyderabad** that can be visited by the people across the globe to quench their thirst for knowledge in the **various fields of science and technology.**
- **Collaboration with other countries:**
  - **Brahmos:** It's an **Indo-Russian joint venture, has a range of 290 km** and is the **fastest cruise missile** in the world with a top speed of Mach 2.8 (nearly three times the speed of sound).
  - **Artificial Intelligence:** India and the US launched the **Indo-US Science and Technology Forum's US India Artificial Intelligence (USIAI) Initiative,** it will also help both countries collaborate on AI innovation and develop an AI workforce.

### Conclusion:

**The science and Technology is a low-hanging fruit for India to employ in its soft power arsenal.** Along with a **multi-aligned stand on global geopolitics,** the time is ripe for India to extend its science and tech ties in global geoeconomics in a more comprehensive and well-rounded manner.