



## Bharat Drone Mahotsav 2022

**For Prelims:** Bharat Drone Mahotsav 2022, Applications of Drone Technology, Drone Rules 2021, PIL Scheme for Drones, Drone Shakti Scheme, Swamitva Scheme, i-Drone

**For Mains:** Government Initiatives to Promote the Use of Drone Technology

### Why in News?

Recently, India's biggest Drone Festival - **Bharat Drone Mahotsav 2022** was inaugurated in **New Delhi** by the Prime Minister.

- **A virtual award of drone pilot certificates, panel discussions, product launches, display of a 'Made in India' Drone Taxi prototype, flying demonstrations, among others** were the key events.

### What are Drones?

- **Drone** is a layman terminology for **Unmanned Aircraft (UA)**.
- Originally developed for the military and aerospace industries, drones have found their way into the mainstream because of the enhanced levels of safety and efficiency they bring.
- A drone's autonomy level can range from remotely piloted (a human controls its movements) to advanced autonomy, which means that it relies on a system of sensors and **LIDAR detectors** to calculate its movement.

### What are the Applications of Drone Technology?

- **Agriculture:** In the agriculture sector, micronutrients can be spread with the help of drones.
  - It can also be used for performing surveys for identifying the challenges faced by the farmers.
- **Defence:** Drone system can be used as a symmetric weapon against terrorist attacks.
  - Drones can be integrated into the national airspace system.
  - Deployment of drones for combat, communication in remote areas, counter-drone solutions can be done.
- **Healthcare Delivery Purposes:** **Indian Council of Medical Research (ICMR)** devised [Drone-Based Vaccine Delivery Model, i-drone. Telangana and North-east states have been approved to use this drone technology for delivering vaccines](#) in remote areas.
- **Monitoring:** The drone technology in the **SVAMITVA scheme** launched by the Government of India, within less than a year, has helped about half a million village residents to get their property cards by mapping out the densely-populated areas.
  - Drones can be used for **real-time surveillance** of assets and transmission lines, theft prevention, visual inspection/maintenance, construction planning and management, etc
  - They can be used for **anti-poaching actions, monitoring of forests and wildlife, pollution assessment, and evidence gathering.**
- **Law Enforcement:** Drones are also significant for the law enforcement agencies, the fire and

emergency services wherever human intervention is not safe and the healthcare services.

## What is the significance of Drone Mahotsav?

- Promotion of drone technology is **another medium of advancing our commitment to [good governance](#) and ease of living.**
- We have got a **smart tool in the form of drones that is going to be part and parcel of common people's lives.**
- As drone technology has its application in diverse areas such as defence, [disaster management](#), agriculture, healthcare, tourism, film and entertainment, there is a **great possibility of a major revolution creating immense opportunities for employment.**
- Villages are witnessing the arrival of roads, electricity, optical fibre and digital technology. However, agriculture work is still being conducted in old ways, leading to hassles, low productivity and wastage.
  - Drone technology is going to play a major role in empowering farmers and modernize their lives.
- Government is making efforts towards creating a strong drone manufacturing ecosystem in India through schemes like [Production-Linked Incentive \(PLI\)](#).

## What are the Drone Rules, 2021?

- In 2021, the Ministry notified [liberalized drone rules](#) with the aim to encourage R&D and to make India a drone hub.
  - It abolished several permissions and approvals. The number of forms that need to be filled was reduced from 25 to five and the types of fee brought down from 72 to 4.
  - No permission is required for operating drones in green zones and no remote pilot license is necessary for non-commercial use of micro and nano drones.
  - Payloads up to 500kg have been allowed so the drones can be used as unmanned flying taxis.
  - Further, foreign ownership of companies operating drones has also been permitted.

## What is the PLI Scheme for Drones?

- The government **also approved a [Production-Linked Incentive \(PLI\) scheme for Drones](#)** and their components with an allocation of Rs. 120 crore for three financial years.
- The PLI Scheme for the drones and drone components industry addresses the strategic, tactical, and operational uses of this revolutionary technology.

## What is the Drone Shakti Scheme?

- The Union Budget **pushed for promotion of drones through startups and skilling at Industrial Training Institutes (ITIs).**
- Startups will be promoted to facilitate 'Drone Shakti' through varied applications and for **Drone-As-A-Service (DrAAS)**. Courses for skilling will also be started in selected ITIs across all States.
  - DrAAS allows enterprises to avail various services from drone companies, removing the need for them to invest in drone hardware or software, pilots, and training programmes.
  - Sectors where drones can be employed are endless. These include photography, agriculture, mining, telecom, insurance, telecom, oil & gas, construction, transport, disaster management, geo-spatial mapping, forest and wildlife, defence and law enforcement to name a few.
- Drones **will also be promoted for crop assessment, digitisation of land records, spraying of insecticides and nutrients (Kisan Drones).**
- The drone services industry **is expected to grow to over Rs 30,000 crore in next three years and generate over five lakh jobs.**

## Way Forward

- A few months earlier, there were a lot of restrictions on drones. However, most of the restrictions have now been removed in a very short span of time.
- Easy access to technology will help in furthering the vision of saturation and in ensuring last-mile delivery.
- Government is trying to make technology available to the masses to impart new strength, speed and scale to the country.

### UPSC Civil Services Examination, Previous Year Question

#### Q. Consider the following activities: (2020)

1. Spraying pesticides on a crop field
2. Inspecting the craters of active volcanoes
3. Collecting breath samples from spouting whales for DNA analysis

**At the present level of technology, which of the above activities can be successfully carried out by using drones?**

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

**Ans: (d)**

**Exp:**

- **Unmanned Aerial Vehicles (UAV) or drones are aircrafts that can be navigated without a human pilot on board.** Drones can be navigated via control from the ground, using a **GPS tracking system**.
- Initially, drones have been developed **mostly for military applications. However, its use has expanded to scientific, recreational, commercial and other applications including peacekeeping and surveillance, product delivery, aerial photography, agriculture, etc.**
- They are now **increasingly used to spray pesticides in agricultural fields to protect standing crops from pests. Hence, statement 1 is correct.**
- Scientists have also been **using drones to study active volcanoes. The drone can both collect breath samples and take high-resolution photos of the whales from the air to assess general health conditions. Hence, statements 2 and 3 are correct.**
- **Therefore, option (d) is the correct answer.**

**[Source: PIB](#)**