

Science and technology: The new drone policy.

GS Paper 3: Science & Technology – developments and their effects; developing new technology; Awareness in the fields of space, IT and computers.

In news: Ministry of Civil Aviation announced guidelines for remotely piloted aircraft (RPAs) — or drones as they are more commonly known — which will come into effect from 1 December, aiming to open up an array of opportunities in the Indian civil aviation sector.



The reasoning for stricter regulations

- Drone technologies have been evolving very rapidly.
- Many countries are still experimenting with their drone regulations.
- India's security environment necessitates extra precautions.

The Digital sky or All-digital platform

The new Digital Sky platform will be the first-of-its-kind national unmanned traffic management (UTM) platform that implements a 'no permission, no take-off' system for remotely piloted aircraft. Users will be required to make one-time registration of their



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drones, pilots and owners on the platform, which will also allow for online filing of a drone's specific flight path and use. The UTM platform operates as a traffic regulator in the drone airspace and coordinates closely with the defence and civilian air traffic controllers (ATCs) to ensure that drones remain on approved flight paths.

Operational requirements

The new regulations have categorised drones into five separate types, on the basis of their weight. The rules that apply for the drones will depend on the weight class that they fall into, which begin from under 250 grams and extend to over 150 kilograms. The five types are nano, micro, small, medium and large.

Other than nano, all other categories of drones need to be registered with the government and issued with a Unique Identification Number (UIN). Drones owned by central intelligence agencies do not have this requirement as well, not surprisingly.

Beyond these permissions, an Unmanned Aircraft Operator Permit (UAOP) is also required for drone operators, except for nano-drones operating below 50 feet and micro-drones operating below 200 feet.

Necessary equipments prior to drone operations

- GNSS — Global Navigation Satellite System
- Return-To-Home (RTH) feature
- Anti-collision light
- ID-Plate
- Flight controller with flight data logging capability
- Radio Frequency ID and SIM/ No-Permission No Take-off (NPNT)

Checks to ensure compliance

- Suspension or cancellation of UIN/ UAOP in case of violation of regulatory provisions.
- Actions as per relevant Sections of the Aircraft Act 1934, or Aircraft Rules, or any statutory provisions.
- Penalties as per applicable sections in the Indian Penal Code (such as 287, 336, 337, 338, or other relevant sections in the IPC)



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A QUICK SCAN THROUGH THE REGULATIONS

Drones weighing more than 250gms to be registered.

All drones must be equipped with global navigation satellite system & return-to-home technology.

They must have anti-collision lights, ID plates & flight controllers with data logging capabilities.

All drones must have 'no permission, no take-off' technology built into their hardware.

There cannot be any human or animal payloads or anything hazardous.

An insurance will be mandatory to cover third party damage.

Questions

1. The new drone policy of India has a high chance of restricting the drone technology burdening it with unnecessary and plethora of regulations. Critically analyse.
2. Enumerate the applications of drones. Why do we need strict regulations for drone usage?