Defence & Security · GS - III

Assess the emerging security challenges posed by unmanned aerial vehicles (UAVs) in urban areas and the role of counter-drone technologies in addressing them.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 24/11/2026	GS - III	Defence & Security

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Critical infrastructure, unauthorised surveillance, payload threats, RF detection, electronic warfare, privacy, proportionality, inter-agency coordination

Model Answer

Introduction

Unmanned aerial vehicles (UAVs), or drones, have expanded opportunities in logistics, surveillance and public services. However, their misuse in densely populated cities creates emerging challenges for internal security and critical infrastructure protection.

Urban Security Challenges

1. **Threat to Critical Infrastructure:** Unauthorised drones can approach airports, power installations, government buildings and strategic facilities, creating risks of disruption or sabotage.

2. **Surveillance and Privacy:** Drones equipped with cameras and sensors can enable unauthorised monitoring of sensitive locations and individuals.

3. **Public Safety Risks:** Malicious use during major public events can cause panic, physical injury and disruption of essential services.

4. **Law Enforcement Difficulties:** Small size, low-altitude flight and autonomous navigation can make detection and identification difficult in congested urban environments.

Role of Counter-Drone Technologies

1. **Detection and Identification:** Radar, radio-frequency sensors and electro-optical systems can help identify suspicious aerial activity.

2. **Electronic Countermeasures:** Jamming and spoofing can disrupt communication or navigation, while other systems may intercept or safely neutralise threats.

3. **Integrated Surveillance:** Linking counter-drone systems with command centres improves situational awareness and coordinated response.

Way Forward

1. Establish risk-based no-drone zones around sensitive installations and public events.
2. Develop interoperable systems involving police, aviation authorities and security agencies.
3. Ensure lawful deployment with safeguards for civilian aircraft, emergency communication and privacy.
4. Invest in indigenous research, skilled operators and regular threat assessments.

Conclusion

Counter-drone capabilities are becoming an essential component of urban security. Their effectiveness depends on integrating technology with clear legal protocols, trained personnel and proportionate responses.

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