

Course Title: Basic Drone Technology and Operations

Course Description: This course provides comprehensive training on advanced drone technology, evolution, communication systems, Indian regulations, obtaining pilot licenses, DGCA requirements, and practical flying skills essential for safe and legal drone operations.

Duration: 60 hours (divided into theoretical learning, practical training, and hands-on exercises)

Course Outline:

Module 1: Introduction to Drones

- History and evolution of drone technology
- Types and classifications of drones
- Applications of drones in various industries

Module 2: Drone Components and Technology

Detailed study of drone components: propulsion systems, flight controllers, sensors, etc.

- Understanding drone communication systems (radio frequencies, data links)
- Overview of autonomous flight capabilities and software

Module 3: Drone Regulations in India

- Overview of drone regulations and policies in India (DGCA regulations)
- Classification of drones and their operational limitations
- Registration, licensing, and operational permits requirements

Module 4: Drone Communication Systems

- Basics of drone communication technologies: radio frequencies, telemetry, GPS
- Data link protocols and encryption standards
- Understanding and troubleshooting communication issues

Module 5: Safety and Operational Guidelines

Importance of safety in drone operations

- Compliance with local regulations and best practices
- Ethical considerations, privacy concerns, and insurance requirements

Module 6: Career Opportunities in Drone Technology

- Application of drones in various industries
- Opportunity as a drone pilot

- Entrepreneurship opportunities in drone services and manufacturing.

Module 7: Simulators Flight Training

- Principles of flight and aerodynamics
- Pre-flight and post-flight procedures
- Hands-on flight training using simulators and real drones

Module 8: Advanced Flying Techniques

- Advanced flight maneuvers and emergency procedures
- Flying in adverse weather conditions and varying environments
- Flight planning, route selection, and airspace management

Module 9: Practical Exercises

- Practical flight sessions under supervision
- Maneuvering drills, obstacle avoidance, and navigation exercises
- Real-world scenarios and case studies

Module 10: Final Assessment and Evaluation

- Practical assessment: Flight test and operational exercises
- Written exam: Assessment of theoretical knowledge and understanding of regulations

Certification: Upon successful completion, participants will receive a certificate in Advanced Drone Technology and Operations, acknowledging their proficiency in drone technology, regulations, pilot licensing, and practical flying skills necessary for safe and compliant drone operations in India.

This course aims to equip participants with in-depth knowledge of advanced drone technologies, regulatory compliance, and practical skills to ensure safe and efficient drone operations, catering to both recreational enthusiasts and professionals seeking to enter the drone industry in India.