

CBCS SCHEME

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BAE/AS306A

Third Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Introduction to Drone Technology

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	Define Drone and illustrate the overview and working of a drone system.	10	L2	CO1
	b.	Describe the function of UGV, UAV, USV and UUWV in detail.	10	L2	CO1
OR					
Q.2	a.	Elaborate the following terms : i) Degrees of freedom ii) Take – off iii) Pitch iv) Roll v) Yaw.	10	L2	CO1
	b.	Discuss the function of nano drone and swarm drone in detail.	10	L2	CO1
Module – 2					
Q.3	a.	Explain the basic sensors used in drones.	10	L3	CO1
	b.	Estimate the significance of the flight controller in drone technology and explain its role in stabilizing the drone and controlling its movements.	10	L4	CO2
OR					
Q.4	a.	Elaborate the mission planning and control station functions in drones.	10	L3	CO2
	b.	Illustrate the different pre-flight checks for drones.	10	L2	CO2
Module – 3					
Q.5	a.	Explain the concept of a type certification and the significance of obtaining for an aircraft. How does it relate to airworthiness and certification?	10	L3	CO4
	b.	Illustrate different DGCA rules and regulations for drones.	10	L3	CO4
OR					
Q.6	a.	Explain remote pilot licensing requirements and procedure.	10	L3	CO4
	b.	Describe in detail about the type of Indian airspace zones.	10	L2	CO4
Module – 4					
Q.7	a.	Elaborate in detail about the types of payload configuration in drones.	10	L2	CO3
	b.	Explain the basics of structures and configuration of a drone.	10	L2	CO3
OR					
Q.8	a.	Describe the working of turbojet mini turbine in drones.	10	L2	CO3
	b.	Illustrate the working of lithium ion battery and lithium polymer batteries and compare it.	10	L3	CO3
Module – 5					
Q.9	a.	Explain the importance of tuning and general testing of drones.	10	L3	CO5
	b.	Identify different simulation benefits and type of simulators for drones.	10	L3	CO5
OR					
Q.10	a.	Discuss the some precautions to keep in mind when using a drone.	10	L2	CO5
	b.	Write the case studies related to construction and testing of a fixed wing drone.	10	L2	CO5
