

Enroll No

Q.P. Code
UT 3033

Unit Test -I (2025-26)

T.Y. B.Tech.-Electronics & Telecommunication Engineering

Course Code: OE359

Course Name: OE-I Drone Technology

Day & Date: Wednesday & 13/08/2025

Time: 2:30 pm to 3:30 pm

Max Marks- 25

Instructions: 1) All questions are compulsory.

2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.

3) CO is the index number of the Course Outcome statement.

4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.

5) Assume suitable data if necessary.

6) Use of non-programmable calculators is allowed

			Marks	BT Level	Cos
Q.1	A	Describe the following terminologies associated with Unmanned Aerial Vehicles (UAVs). Drag, Thrust, Lift, Pitch, Roll, and Yaw. (any 4)	4	2	1
	B	Articulate, how drones are categorized based on wings. (2) Describe the construction and working of a quadcopter.(2) Include a neat block diagram and explain the function of each major component.(4)	8	3	1
		OR			
		Draw drone system stack up of mechanical parts (3) and explain the significance of each stack element.(5)	8	2	1
Q.2	A	Give significance of a Flight Board on UAV (2). Describe any 6 pin functions carried out by Naze 32 flight board. (3)	5	3	2
	B	Justify how propeller design and blade angle affect the aerodynamic efficiency and thrust generation of drones.(4) Also describe Propeller Design Parameters which are considered while designing a drone.(4)	8	5	2
		OR			
		Illustrate different types of engines used in UAV (2). Draw basic building block diagram for Internal Combustion engine in UVA and explain in detail (4). Write 4 Specifications of RCV DF70 UAV Engine.(2)	8	4	2

