

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

Subject Code:3160114

Date:29-05-2026

Subject Name:Introduction to UAV

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Write short note on defense application of an UAV.	03
	(b) Discuss the difference between aircraft and UAV.	04
	(c) Discuss the important parts and functions of a fixed wing UAV.	07
Q.2	(a) Write the full form of HALE, MALE and UCAV.	03
	(b) Discuss Hyper spectral sensors.	04
	(c) Discuss in detail: Dijkstra's Algorithm.	07
	OR	
	(c) Discuss in detail: A- star Algorithm	07
Q.3	(a) Draw schematic of fixed wing UAV.	03
	(b) Discuss the possible reasons for Loss of communication between an UAV and a GCS.	04
	(c) Discuss the factors that drive the design of a payload.	07
	OR	
Q.3	(a) Why is resolution important for Electro-optic Payload Systems?	03
	(b) Discuss Catapult Launch System Tests	04
	(c) Explain in detail: Synthetic aperture radar	07
Q.4	(a) Discuss Dispensable Payloads used on an UAV.	03
	(b) List UAV Launch - Recovery systems.	04
	(c) Discuss 3 application of an UAV for Environmental monitoring.	07
	OR	
Q.4	(a) Discuss Radio Communication	03
	(b) How do you carry out Way point Navigation for an UAV? Explain.	04
	(c) Explain Dead Reckoning.	07
Q.5	(a) Write a short note on Telemetry.	03
	(b) What do you understand by inertial navigation? Discuss.	04
	(c) How will you carryout undercarriage testing?	07
	OR	
Q.5	(a) What are the ways to mount Electro-optic systems on an UAV?	03
	(b) Discuss application of Expendable UAVs.	04
	(c) How will you prepare an UAV for in-flight testing?	07
