

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2180104****Date:13/05/2019****Subject Name:Aircraft Control And Navigation****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.

		MARKS
Q.1	(a) Draw a block diagram of basic autopilot.	03
	(b) Explain Lateral Autopilot with block diagram.	04
	(c) Explain Pitch Orientation control system with Functional diagram.	07
Q.2	(a) Define (i) Stability (ii) Navigation (iii) Dutch Roll	03
	(b) Explain longitudinal Autopilot with block diagram.	04
	(c) Explain ILS/MLS coupled Autopilot system in brief.	07
	OR	
	(c) Explain Yaw Orientation control system with Block diagram.	07
Q.3	(a) Write a short note on Deck reckoning.	03
	(b) Derive equation for Turn Compensation with suitable sketch.	04
	(c) Explain Inertial cross coupling in brief.	07
	OR	
Q.3	(a) Enlist Celestial navigation system.	03
	(b) Explain Acceleration control system with suitable block diagram.	04
	(c) Derive equation of Angular motion for an Aircraft.	07
Q.4	(a) List out the parameters which are affecting stability of an aircraft.	03
	(b) Explain Dead reckoning in brief.	04
	(c) Explain Flight Management system in brief.	07
	OR	
Q.4	(a) Explain Dutch roll Damping with block diagram.	03
	(b) Write a note on Mapping Navigation system.	04
	(c) Derive an equation of linear motion for aircraft.	07
Q.5	(a) Write a note on Glide slop coupler.	03
	(b) Explain Automatic Flare out and Approach system in brief.	04
	(c) Explain Transient Response of an Aircraft.	07
	OR	
Q.5	(a) Explain Automatic Flare out in brief.	03
	(b) Explain Positioning in terms of navigation.	04
	(c) Find out Aircraft's attitude with respect to earth by Euler's angle method.	07
