

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:2170105****Date:08/06/2022****Subject Name:Advanced Avionics****Time:02:30 PM TO 05:00 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) List of GPS satellite systems around the world.	03
	(b) Differentiate between civil and military avionics.	04
	(c) What do you understand by Avionics Architecture? Discuss merits and demerits of various types of architecture involving Digital System Design.	07
Q.2	(a) Explain an importance of avionics system in aviation industry.	03
	(b) Enlist basic six avionics equipments which are located in cockpit.	04
	(c) Explain Working principle of Emergency Locator Transmitter with its mounting requirements and specification.	07
OR		
	(c) Explain Flight interphone system in brief with suitable block diagram.	07
Q.3	(a) What do you understand by keeping avionics cool?	03
	(b) What do you understand by “maintenance by WHO, WHEN and WHERE”?	04
	(c) Which Environmental tests are carried out after designing the avionics system?	07
OR		
Q.3	(a) What do you mean by Black Box systems.	03
	(b) How the maintenance of avionics system can be made easier using BIT And CFDS?	04
	(c) Explain Fault Detection Methodology and Fault Tolerance System with suitable block diagram.	07
Q.4	(a) What are the causes of errors in INS system.	03
	(b) How Inertial guidance system is differs than other navigation systems explain.	04
	(c) Explain the ILITIES which governs the digital avionics system.	07
OR		
Q.4	(a) Explain difference between life cycle cost of military aircraft and commercial aircraft.	03
	(b) Explain a giant of a test language- ATLAS in brief.	04
	(c) Explain HF radio equipment with suitable block diagram.	07
Q.5	(a) What are the function of gyroscope and accelerometer in INS system?	03
	(b) Explain relation between life cycle cost and Mean Time Between Failure.	04
	(c) Write a short note: (i) BITE and CFDS (ii) SELCAL	07

OR

- Q.5**
- (a) What do you mean by HF radio wave propagation? **03**
 - (b) Explain Electronic Flight Instrument Systems (EFIS). **04**
 - (c) Explain Indian Regional Navigation Satellite System (IRNSS) in brief. **07**
