Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2170104 **Date: 06/05/2017**

Subject Name: Rocket & Missile Technology

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.**

Q.1	**(a)**	Explain with neat sketch on Boattail	**07**
	(b)	Which are the desired physical properties of solid propellant?	**07**
Q.2	**(a)**	What is Missile? Explain with neat sketch different types of missiles	**07**
	(b)	Write a short note on Base pressure for airframe components.	**07**
		OR	
	(b)	Explain with neat sketch Long range cruise trajectory for missile performance.	**07**
Q.3	**(a)**	Explain Tail less control, Body extension, and nose flap control	**07**
	(b)	Write a short note on Flat Turns.	**07**
		OR	
Q.3	**(a)**	Make a relation of Maneuverability and static stability margin for Maneuvering flight.	**07**
	(b)	Write a short note on Aerodynamics controls	**07**
Q.4	**(a)**	Which are the desired physical properties of liquid propellant?	**07**
	(b)	Make a relation between mixture ratio loaded and mixture ratio burned	**07**
		OR	
Q.4	**(a)**	List out good load controls for propellant loading tolerance, and explain density variations	**07**
	(b)	Explain Gelled Propellants	**07**
Q.5	**(a)**	Explain Calibrated system outage control	**07**
	(b)	Explain double base propellant	**07**
		OR	
Q.5	**(a)**	Write a advantages and disadvantages of solid propellant	**07**
	(b)	Explain Aspect ratio on wing with appropriate sketch and equations.	**07**

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