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

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 170104 **Date: 06/05/2017**

Subject Name: Rocket & Missile Configurations Design

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)**	Make a Relationship between mixture ratio loaded and mixture ratio burned for volume verses mass loaded	**07**
	(b)	Explain flow past a wedge and cone with neat sketch	**07**
Q.2	**(a)**	Explain ogival forebody	**07**
	(b)	Explain Hemispherical forebody	**07**
		OR	
	(b)	Explain Mid section for airframe components	**07**
Q.3	**(a)**	Define Aspect ratio. Explain with neat sketch mach triangle and tip effects on wing	**07**
	(b)	Write a short note on Aerodynamics controls.	**07**
		OR	
Q.3	**(a)**	Define drag. Explain Different types of drag with equations.	**07**
	(b)	Write a short note on Boost Glide Trajectory.	**07**
Q.4	**(a)**	Which are the desired physical properties of solid propellant?	**07**
	(b)	Which are the desired physical properties of liquid propellant?	**07**
		OR	
Q.4	**(a)**	Write a note on free flight dispersion	**07**
	(b)	Write a short note on Loading measurement and control	**07**
Q.5	**(a)**	Explain Base pressure with C_p vs Mach No. graph	**07**
	(b)	Explain with neat sketch design and control for missile configuration design	**07**
		OR	
Q.5	**(a)**	Write a short note on Boattail	**07**
	(b)	What is Missile? Explain with neat sketch different types of missiles	**07**

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