Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII(NEW) • EXAMINATION – WINTER 2016

Subject Code:2170104 **Date:25/11/2016**

Subject Name:Rocket & Missile Technology

Time:10.30 AM to 1.00 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 Solid propellant characteristics.	**07**
	(b)	Explain flow past a wedge and cone for conical forebody.	**07**
Q.2	**(a)**	Write a short note on an aspect ratio with neat sketch and equations.	**07**
	(b)	List out Propellant ingredients for solid propellant and explain Inorganic oxidizers with appropriate examples.	**07**
		OR	
	(b)	Write a short note on Gelled Propellants.	**07**
Q.3	**(a)**	Define double base propellant. Write advantages and disadvantages for extruded and castable double-base propellant.	**07**
	(b)	Write a short note on Propellant tank outlet design with neat sketch.	**07**
		OR	
Q.3	**(a)**	Write a short note on Organic oxidizers for solid propellant.	**07**
	(b)	Explain Desirable physical properties for liquid propellant.	**07**
Q.4	**(a)**	Define Outage. Explain Calibrated system outage control.	**07**
	(b)	List out good load controls for propellant loading tolerance, and explain density variations.	**07**
		OR	
Q.4	**(a)**	Write a Short note on Long range cruise trajectory.	**07**
	(b)	Write a short note on Flat turns and pull-ups for maneuvering flight.	**07**
Q.5	**(a)**	What is drag? Explain different types of drag with equations	**07**
	(b)	Explain classes of Missiles with neat sketch	**07**
		OR	
Q.5	**(a)**	Make a relation between mixture ratio loaded and mixture ratio burned.	**07**
	(b)	Write a short note on BOOST SUSTAIN TRAJECTORY	**07**

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