PRN:		Course Code :	P69PC102

First Year **M. Tech** Semester End Examination Winter 2024

Rocket Propulsion 000458

Day and Date: Mon 1- 2 DEC 2024 Max Marks: **50**

Time : 10:30AM To 12:30PM Duration: **02** hrs

Instructions:
1. All questions are compulsory.
2. Assume suitable data wherever necessary and mention it clearly.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following Question.**			
	a)	Explain the operating principle of rocket propulsion.	10	2	1
Q.2		**Attempt the following Question.**			
	a)	Explain the following i. Nozzle area ratio ii. Characteristic velocity iii. Thrust coefficient iv. Nozzle configurations.	10	2	1
		OR			
	b)	Explain different types of propellants.	10	3	2
Q.3		**Attempt the following Question.**			
	a)	Explain Propellant Grains and Grain Configurations	10	2	3
		OR			
	b)	Explain the following i. Propellants and Characteristics ii. Propellant Burning Rate	10	2	3
Q.4		**Attempt the following Question.**			
	a)	Explain Manufacturing Methods for Low and High-thrust Engines.	10	1	4
		OR			
	b)	Explain Performance Parameters of Hybrid Rocket.	10	2	4
Q.5		**Attempt the following Question.**			
	a)	Explain comparison of performance of these propulsion systems with chemical rocket propulsion systems	10	3	5
		OR			
	b)	List the future applications of electric propulsion systems and explain Solar sail.	10	2	5

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