

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – SUMMER • 2014****Subject Code: 170104****Date: 29-05-2014****Subject Name: Rocket & Missile Configurations Design****Time: 02:30 pm - 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) Classify the missiles and explain with neat sketch. **07**
(b) Write a short note on Pressurization system. **07**
- Q.2** (a) Explain the effect of Aspect Ratio on the wing of missile. **07**
(b) Write a short note on liquid propellant combustion process. **07**
- OR**
- (b) Classify the Conical and ogival fore body with neat sketch. **07**
- Q.3** (a) Define Friction drag, Pressure drag, Induce drag, Interference drag. **07**
(b) Explain Boattail with neat sketch. **07**
- OR**
- Q.3** (a) Write solid propellant characteristics. **07**
(b) Classify Aerodynamic Launching problems. **07**
- Q.4** (a) Write liquid propellant characteristics. **07**
(b) Write properties of solid propellant. **07**
- OR**
- Q.4** (a) Define with neat sketch Re-entry body design consideration. **07**
(b) Write a short note on rocket engine. **07**
- Q.5** (a) Write a short note on Propellant loading tolerance. **07**
(b) What is outage? Derive relation between MR_L and MR_B for volume verses mass loading. **07**
- OR**
- Q.5** (a) Write a short note on Optimum Bias. **07**
(b) Classify with details Loading measurement and control. **07**
