

(Following Paper ID and Roll No. to be filled in your
Answer Books)

Paper ID : 148856

Roll No.

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B.TECH.

Theory Examination (Semester-VIII) 2015-16

ROCKETS & MISSILES

Time : 3 Hours

Max. Marks : 100

Note : Attempt all parts. All parts carry equal marks.

Section-A

- 1. Write answer of each item in short. (Max. 30 words)**
(2×10=20)

- (a) Define “Thrust” and “Thrust coefficient.”
- (b) What do you understand by Nozzle flow separation?
- (c) What are convergent/divergent nozzle ?
- (d) What is “mixture ratio” ?
- (e) What are deflection nozzles ?

- (f) What are ignition devices ?
- (g) What are solid propellants ?
- (h) Define Exhaust velocity.
- (i) Define Propulsive Efficiency.
- (j) What are combustion chambers ?

Section-B

2. Attempt any five questions from this section. (10×5=50)

- a. What are the basic principles of Electrical Rockets ?
- b. Describe the mass flow through a nozzle.
- c. What are the basic concepts of “erosive burning” ?
- d. Describe the various ignition systems. What are ignition detectors.
- e. What is nozzle design ? What is the effect of friction on nozzles.
- f. Describe the method of calculation of Adiabatic flow temperature.
- g. What are the uses of Gas generators ?
- 9. What are the various methods of Thrust measurement ?

Section-C

Attempt any two questions from this section. (15×2=30)

3. What is the fundamental relation of Internal ballistics ?
4. What are the various cooling systems ? What is “regenerative cooling”?
5. Write short notes on the following :
 - (a) Propellant formula
 - (b) Flow measurements
 - (c) Characteristics of combustion chamber

