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BAS-025

B.Tech. AEROSPACE ENGINEERING (BTAE)

Term-End Examination

00298

June, 2016

BAS-025 : SPACE DYNAMICS

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. Derive an expression for the escape velocity of a satellite from the Earth. *10*

2. What is the difference between Keplerian orbits and Perturbed Keplerian orbits ? *10*

3. Explain the difference between chemical rocket propulsion and electrical rocket propulsion systems used for spacecraft flights, with the help of suitable diagrams. *10*

4. (a) Discuss the salient features of interplanetary mission vis-a-vis Earth satellite mission or Lunar mission.

   (b) Explain geosynchronous satellites. *5+5*

5. Explain the stability of motion near the liberation point. Make use of proper sketches and examples. *10*

6. Describe in detail the general aspects of satellite injection. *10*

7. Explain the factors behind perturbation of satellite's orbit and its positions. *10*

8. Explain fully all the features of entry trajectory of a ballistic missile. *10*

9. Describe three types of entry paths possible while the spacecraft enters the atmosphere. Also describe Entry Corridor. *10*