

**International Islamic University Chittagong (IIUC)**  
**Department of Electronics and Telecommunication Engineering**  
**Mid Term Exam, Spring-2022**

Course Code: ETE-4745/4705  
Full Marks: 30

Course Title: Satellite Communication  
Duration: 1.5 Hours

*Answer Any Three Question from The Following Question. The  
Figures in The Right Margin Indicate Full Mark.*

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|----|----|---|---|-----|
| 1. | a) | Explain the Kepler's law of planetary motion and how are they applicable to the geostationary satellite.  | 6 | CO1 |
|    | b) | Differentiate between geosynchronous and geostationary orbit.   | 4 | CO1 |
| 2. | a) | Explain the concept and significance of station keeping. What are N-S and E-W station keeping             | 6 | CO2 |
|    | b) | Explain the difference types of transmission losses in satellite communication with necessary expression. | 4 | CO2 |
| 3. | a) | Explain thermal control system. With a neat sketch.   | 6 | CO1 |
|    | b) | Explain Telemetry, Tracking and command subsystem.  | 4 | CO1 |
| 4. | a) | What is orbit? Derive an expression for the equation of satellite orbit.                                  | 6 | CO1 |
|    | b) | Briefly describe the orbital mechanics for the placement of GEO satellite with proper sketching           | 4 | CO2 |