M 26159

Reg. No. : .....

Name : .....

VII Semester B.Tech. Degree (Reg./Sup./Imp. – Including Part Time) Examination, November 2014
(2007 Admn. Onwards)
PT2K6/2K 6EC 705 (B) : SATELLITE COMMUNICATION

Time : 3 Hours Max. Marks : 100

PART – A

1. Derive the equation for finding period of a satellite orbit.
2. Explain Kepler's laws of planetary motion.
3. Explain the single conversion transponder.
4. Write a short note on earth station antennas.
5. Write the importance of guard time in TDMA.
6. Briefly explain how FDM-FM-FDMA is implemented in satellite channels.
7. Explain differential GPS.
8. Write a short note on uplink design. **(8×5=40)**

PART – B

9. a) Explain the calculation of Azimuth angle and elevation angle. **7**
   b) Write a short note on orbital perturbations. **8**

   OR

   c) Explain the launch vehicle selection factors. **5**
   d) Explain the procedures for placing satellites in geostationary orbit. **10**

P.T.O.

10. a) Explain earth station transmitter, receiver and antenna in detail. **15**

OR

b) Write a short note on telemetry and monitoring system of satellite. **7**

c) Write a short note on reliability of satellite subsystem. Derive the expression for reliability of a device. **8**

11. a) Briefly explain DAMA. **5**

b) Explain about TDMA implementation in satellite communication. **10**

OR

c) Explain in detail about direct sequence spread spectrum transmission and reception. **15**

12. a) Derive link equation. **8**

b) Explain system noise temperature in detail. **7**

OR

c) Explain receiver of GPS with block diagram. **7**

d) Explain GPS position location procedure. **8**