C 80764 (Pages : 2) Name.....

Reg. No.....15.....

SIXTH SEMESTER B.TECH. (09 SCHEME) (ENGINEERING) DEGREE EXAMINATION, APRIL 2015

EC/PTEC 09 L05—SATELLITE COMMUNICATION

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *the questions.*

1. Define the term "inclination".
2. Differentiate prograde orbit and retrograde orbit.
3. What is solar sail ?
4. What is G/T ratio ?
5. What is the need to have multiple access systems ?

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*

1. Write briefly on orbital perturbations.
2. Briefly explain about spin stabilization.
3. Explain link-power budget.
4. Explain a DAMA system.
5. Write notes on home TV.
6. Explain briefly on the antennas used for satellite communication.

(4 × 5 = 20 marks)

Part C

1. (a) (i) Explain Kepler's laws.

   (ii) Explain the effect of solar eclipse on the performance of satellite communication.

   Or

   (b) Explain about launch vehicles and placing of satellites into geostationary orbit.

2. (a) Explain on telemetry, tracking and command system.

   Or

   (b) Explain about transponders.

3. (a) Discuss the parameters affecting the carrier-to-noise ratio in the uplink of a satellite system.

Or

(b) Discuss about satellite system noise temperature.

4. (a) Explain TDMA, FDMA and CDMA systems.

Or

(b) Write notes on (i) Satellite mobile systems; and (ii) GPS.

(4 × 10 = 40 marks)