

C 26755

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Name

Reg. No.

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, MAY 2012**

EC/PTEC 09 L05—SATELLITE COMMUNICATION

(2009 admissions)



Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

Each question carries 2 marks.

1. Define doppler shift.
2. State two effects of solar eclipse on satellite communication.
3. What is an orthocoupler ?
4. A LNA is connected to a receiver that has a noise figure of 12 dB. The gain of the LNA is 40 dB and its noise temperature is 120 K. Find the overall noise temperature referred to the LNA input.
5. What is GPS ?

(5 × 2 = 10 marks)

Part B

Answer any four questions.

Each question carries 5 marks.

1. Explain the orbital parameters.
2. Explain briefly about power system used in a satellite.
3. Explain briefly on transponders.
4. Explain uplink rain fade margin.
5. Discuss on CDMA system.
6. Write notes on digital DBS.

(4 × 5 = 20 marks)

Part C

Answer all questions.

Each question carries 10 marks.

1. (a) (i) Explain the various satellite orbits.
(ii) Write notes on orbital perturbations.

Or

- (b) (i) Explain the determination of look angle.
(ii) State Keplers first and second law.

Turn over

2. (a) Explain altitude and orbit control system.

Or

(b) Explain telemetry, tracking, command and monitoring system.

3. (a) Explain about system noise temperature.

Or

(b) Explain the link design procedure.

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

Or

(b) Write notes on (i) VAST system ; (ii) Satellite mobile system.

(4 × 10 = 40 marks)