

Code: R7410409

B.Tech IV Year I Semester (R07) Supplementary Examinations December 2015

SATELLITE COMMUNICATIONS

(Electronics & Communication Engineering)

(For 2008 regular admitted batch only)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

- 1 Explain in detail about basic satellite system.
- 2 Explain in detail about orbital perturbations with examples.
- 3 Explain in detail about attitude and orbit control system.
- 4 (a) A satellite at a distance of 40,000 km from a point on the earth's surface radiates a power of 10 W from an antenna with a gain of 17 dB in the direction of the observer. Find the flux density at the receiving point, and the power received by an antenna at this point with an effective area of 10 m^2 . If the same satellite operates at a frequency of 11 GHz and the receiving antenna has a gain of 52.3 dB. Find the received power.
(b) Explain briefly uplink design.
- 5 Explain in detail about TDMA.
- 6 (a) Explain about antenna tracking systems.
(b) Explain about terrestrial in tracking.
- 7 Explain different types of orbits that are considered for satellites.
- 8 (a) Explain how to locate the position in GPS.
(b) Explain briefly about GPS receiver and codes.
