

Code No: **R42043**

R10

Set No. 1

IV B.Tech II Semester Supplementary Examinations, July – 2016

SATELLITE COMMUNICATIONS

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 75

Answer any FIVE Questions

All Questions carry equal marks

- 1 a) Discuss the history of satellite communication. [7]
b) Draw the block diagram for satellite communication system. Explain the function of each block. [8]
- 2 a) Describe the orbit and explain how the satellite is located with respect to the earth. [7]
b) Draw the geometry of a geostationary link showing elevation, azimuth and range. [8]
- 3 a) Draw the block diagram of typical onboard control system for a spinner satellite and explain its operation. [7]
b) Write a short note on Telemetry and Tracking. [8]
- 4 a) Derive the equation for the power received by an earth station from a satellite transmitter. [7]
b) Discuss about the noise temperature. [8]
- 5 a) Explain the frequency division multiple access of satellite system with one example. [7]
b) Derive the overall carrier to noise ratio in FDMA. [8]
- 6 a) Draw the simplified diagram of large earth station equipment using FDM/FM/FDMA technology and explain each block in detail. [7]
b) What are the different types of antenna mounts? [8]
- 7 a) Explain the orbital consideration and constellation size of NGSO. [7]
b) Explain the general aspects of coverage and frequency consideration of low earth orbit. [8]
- 8 a) Explain in detail about GPS position location. [7]
b) Explain about signal processing techniques used in GPS receiver. [8]