

Code No: **R42043****R10****Set No. 1****IV B.Tech II Semester Supplementary Examinations, April/May – 2017****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 origin of satellite communications in details. [8]
b) Discuss the performance characteristics of different altitude satellites. [7]
- 2 a) Compare the three types of satellite orbits. [8]
b) What are orbital perturbations? Explain the effects of earth's oblateness on orbital inclination of geosynchronous satellite. [7]
- 3 a) Discuss the principle of N-S control of a spinner satellite using infrared sensor with a neat figure. [8]
b) Explain in details about tracking subsystem with neat block diagram. [7]
- 4 a) Discuss about the G/T Ratio for earth station. [8]
b) Explain the design procedure of satellite communication link. [7]
- 5 a) Explain the Time Division Multiple Access (TDMA) frame structure. [8]
b) Briefly explain the process of spread spectrum transmission and reception? [7]
- 6 a) What is the performance of transmitter in an earth station and explain it. [8]
b) Explain the small earth station? [7]
- 7 a) Write a short note on "Equatorial orbits" and "Elliptical orbits". [8]
b) Why L-band is allocated for mobile satellite service? [7]
- 8 a) Write a note on P-code in GPS satellite? [8]
b) What are the difficulties in DGPS? [7]