

Code: 9A04803

**R09**

B.Tech IV Year II Semester (R09) Regular & Supplementary Examinations April 2016

**SATELLITE COMMUNICATIONS**  
(Electronics & Communication Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Discuss in detail the satellite applications in different areas.  
(b) Discuss the progress made by India in satellite communications.
- 2 Explain and define with neat diagrams:  
(a) Sub-satellite point.  
(b) Look angles.  
(c) Ascending node with respect to a satellite.
- 3 (a) With neat diagrams, explain the Attitude and Orbital control systems.  
(b) Explain the details of power systems in a satellite.
- 4 (a) From the basic transmission theory define the necessary equation for the power received by an antenna from the satellite.  
(b) List the major factors for a geo-stationary satellite design to have maximum performance at an acceptable cost.
- 5 (a) What is meant by TDMA frame acquisition and frame synchronization?  
(b) Write notes on DAMA and CDMA.
- 6 Explain the step tracking system. Give a comparison of auto-track systems.
- 7 Explain the important factors that influence the design of LEO satellite communication.
- 8 Write notes on differential GPS.

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