

Duration: 3 Hours

Marks: 80

Note:

- 1) Q.1 is **compulsory**.
- 2) Attempt any **three** questions from the remaining **five** questions.
- 3) Assume Suitable data wherever necessary

Q1. Attempt any FOUR

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- a) Explain Launching of Geostationary satellites
- b) Explain design considerations of Earth station
- c) State and explain Kepler's Laws
- d) Explain different orbital parameters
- e) Differentiate window and frame organization

Q2. a) What is EIRP, Discuss importance of [G/T] ratio. Calculate Overall [C/N] for a satellite link, if [C/N] up link =25dB and [C/N] downlink=20dB and intermodulation noise =13dB

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b) Explain TT & C subsystem. Explain role of multi-tone frequency in tracking system.

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Q3 a) Describe different stabilization technique

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b) What are different types of lasers used for satellite communication? Explain acquisition link model for optical communication

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Q4 a) With the help of block diagram explain transmit receive type of earth station

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b) Draw and explain satellite network architecture

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Q5 a) Explain SPADE system and SCPC of FDMA

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b) Which types of antennas used in satellite communication. Explain any one in detail.

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Q6. Write short note on any TWO

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- a) Onboard connectivity with transparent processing
- b) VSAT and GPS
- c) Reliability and space Qualification