Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER–VII EXAMINATION – SUMMER 2016

Subject Code:X71104 **Date:05/05/2016**

Subject Name: Satellite Communication

Time:02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Define: (1)Line of Apsides (2)Apogee (3)Prograde orbit (4)Sub-satellite Path (5)Inclination (6)Ascending node (7)Argument of Perigee	**07**
	(b)	State and Explain kepler's three laws for planetary motion.	**07**
Q.2	**(a)**	Explain TT & C system with required diagram.	**07**
	(b)	What is VSAT? Explain Architecture of VSAT. List Application of VSAT.	**07**
		OR	
	(b)	Compare FDMA, TDMA and CDMA.	**07**
Q.3	**(a)**	Explain different types of Antennas used in satellite communication.	**07**
	(b)	Explain: (1) Antenna Look Angle determination (2) Attitude Control	**07**
		OR	
Q.3	**(a)**	Explain: (1)Limits of Visibility (2)Sun transit Outage	**07**
	(b)	What is uplink and down link? Draw and Explain uplink Block Diagram. Explain steps to be followed for uplink power budget preparation.	**07**
Q.4	**(a)**	What is XPD? How XPD are predicted? Draw and explain canting angle and tilt angle.	**07**
	(b)	Explain Transponder in detail	**07**
		OR	
Q.4	**(a)**	Why stability of satellite is important in satellite communication? Explain three axis method of satellite stabilization.	**07**
	(b)	Explain orbit considerations with respect to Non-Geostationary Satellite Orbit (NGSO) and describe orbcormm system in brief.	**07**
Q.5	**(a)**	Explain communication subsystem of satellite.	**07**
	(b)	Define EIRP. Discuss basic transmission theory to calculate the power received by earth station from satellite transmitter.	**07**
		OR	
Q.5	**(a)**	Draw and Explain GPS.List applications of GPS.	**07**
	(b)	Explain DBS-TV in detail	**07**

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