Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – SUMMER • 2014

Subject Code: 171007 **Date: 31-05-2014**

Subject Name: Satellite Communication

Time: 02:30 pm - 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)**	What is satellite communication? Draw and explain the block diagram of satellite communication in detail.	**07**
	(b)	By using of equation and figure properly explain the look angle determination of satellite.	**07**
Q.2	**(a)**	What are the specialties of satellite antenna? List the types of satellite antennas used and explain any one of them.	**07**
	(b)	List the types of parameter effective in downlink of satellite. Also give its significance and arrange them in the equation for downlink.	**07**
		OR	
	(b)	How we can provide C/N link design. Also combine C/N with C/I values in satellite link.	**07**
Q.3	**(a)**	List the types of Multiple Access Scheme used in the satellite communication and give its comparisons.	**07**
	(b)	With the help of equation and block diagram Properly explain the Code Division multiple Access in detail.	**07**
		OR	
Q.3	**(a)**	List the types of propagation effect that can provide impact on satellite – earth link and explain any two of them.	**07**
	(b)	List the types of orbits used in the satellite and give its comparison with appropriate advantages and disadvantages.	**07**
Q.4	**(a)**	What is VSAT? Draw and explain the block diagram of VSAT in detail.	**07**
	(b)	By using of appropriate equation and figure explain calculation of link margins of VSAT for star network.	**07**
		OR	
Q.4	**(a)**	Give and explain orbit, coverage and frequency consideration of non-geostationary satellite system.	**07**
	(b)	Draw and explain the satellite mobile network in detail.	**07**
Q.5	**(a)**	Draw and explain the Direct Broadcast satellite TV system in detail.	**07**
	(b)	Properly explain how error control mechanism works in the DBS-TV .	**07**
		OR	
Q.5	**(a)**	What is GPS? Draw and explain the block diagram of the GPS receiver with all detail	**07**
	(b)	Properly explain the principles of GPS location finding. Also explain Satellite signal acquisition in detail.	**07**

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