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GUJARAT TECHNOLOGICAL UNIVERSITY

Ç,	ıbioo	BE - SEMESTER-VII EXAMINATION – SUMMER 2016 et Code: 171007 Date: 05/05/202	16
St Ti	ibjec ime:(struct	et Name:Satellite Communication (Department Elective - I) 02:30 PM to 05:00 PM Total Marks: '	
Q.1	(a)	Draw and explain block diagram of DBS-TV receiver	07
	(b)	Explain with block diagram: (i) Single conversion transponder (ii) Double conversion transponder	07
Q.2	(a)	Explain briefly: Sun synchronous orbit, Elliptical orbit, and Inclined orbit.	07
	(b)	Explain GPS position location principle with necessary diagram and derivations.	07
		OR	
	(b)	What does the acronym VSAT stand for? Explain network architectures for VSAT systems.	07
Q.3	(a)	Draw and explain block diagram of GPS receiver.	07
	(b)	Explain the coding and decoding operations in DBS-TV signal with the help of block diagram	07
		OR	
Q.3	(a)	Describe briefly the main advantages of satellite communication and discuss the applications of satellite communication.	07
	(b)	Explain basic transmission line theory and derive equation of power received in dBW. (In terms of EIRP, Antenna gain and path loss.)	07
Q.4	(a)	What are the differences between multiplexing and multiple access techniques. Explain briefly Code division multiple access.	07
	(b)	Explain the design methodology for a one-way satellite communication link with the help of one example.	07
		OR	
Q.4	(a)	Draw and explain block diagram of telemetry, tracking, command and monitoring system for communication satellite.	07

	(b)	Explain Frequency division multiple access technique for satellite links.	07
Q.5	(a)	Explain Kepler's three laws of planetary motion with necessary diagram and equations.	07
	(b)	Write short note on : Satellite launch vehicles in India	07
Q.5	(a)	OR Explain propagation effects that are not associated with hydrometers.	07
	(b)	Write short note on : Satellite Antennas	07