Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –IIst SEMESTER–EXAMINATION – JULY- 2012

Subject code: 1722704 **Date: 12/07/2012**

Subject Name: Global Positioning System

Time: 10:30 am – 13:00 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 GPS? Give comparison of Ground based and Space based Radio Navigation System and also Enumerate Primary functions of GPS.	**07**
	(b)	Describe GPS constellation and its evolution.	**07**
Q.2	**(a)**	Explain Control Segment Locations. Describe physical characteristics and Orbital parameters of the Global Positioning Satellite.	**07**
	(b)	How does GPS work? Describe space segment.	**07**
		OR	
	(b)	Describe GPS Resolution-code phase. Justify "if both C/A-code and P-code operate the same way and so why not go for the higher accuracy P-code?"	**07**
Q.3	**(a)**	Describe GPS Terminology.	**07**
	(b)	Write short note on GPS reference system WGS84.	**07**
		OR	
Q.3	**(a)**	Describe fundamental and derived frequencies for GPS.	**07**
	(b)	Describe various types of GPS observables.	**07**
Q.4	**(a)**	List the applications of GPS and explain any two.	**07**
	(b)	Describe GPS Time Measurement and Discuss the Relationship Between Pseudo-range and True-range.	**07**
		OR	
Q.4	**(a)**	Write short note on GPS Denial of Accuracy.	**07**
	(b)	Describe GPS Error Budget and explain Ionospheric and tropospheric refraction.	**07**
Q.5	**(a)**	Enumerate Dilution of Precision (DOP) and explain concept of DOP in brief.	**07**
	(b)	Which are the Important tasks of a GPS receiver? Explain how GPS receiver Decode navigation data bits.	**07**
		OR	
Q.5	**(a)**	Write short note on GPS antenna.	**07**
	(b)	What is the Carrier tracking? Explain how GPS receiver Calculate pseudoranges.	**07**

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