

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013****Subject code: 1722704****Date: 05-06-2013****Subject Name: Global Positioning System****Time: 10.30 am – 01.00 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? State and explain the objective of GPS. Also write history of GPS in brief. **07**
- (b) List out the important component of the GPS. And explain each of them in detail. **07**
- Q.2** (a) Explain in detail GPS reference system WGS84. **07**
- (b) List and explain different GPS system used in real environment. **07**
- OR**
- (b) List out all types of error occurred in GPS System and explain Any three of them in detail. **07**
- Q.3** (a) List out the major application of the GPS System and explain any two application in detail. **07**
- (b) Draw and explain each part of GPS receiver. **07**
- OR**
- Q.3** (a) List all types of antenna used in the GPS system and explain any two of them in detail. **07**
- (b) Properly explain with the required figure and equation the concept of velocity determination with Doppler observation. **07**
- Q.4** (a) Properly explain different types of carrier frequencies used in GPS. **07**
- (b) Explain the concept of dilution of precision in brief. Also explain HDOP and VDOP in short **07**
- OR**
- Q.4** (a) Properly explain the concept of single, double and triple differences in detail for the measurement. **07**
- (b) Write How to eliminate the ionosphere error using dual frequency signal and explain it properly. **07**
- Q.5** (a) What is pseudo range ? Properly explain how GPS receiver calculate pseudo range **07**
- (b) Properly explain interference and jamming. **07**
- OR**
- Q.5** (a) What is anti spoofing and select availability ? Properly explain it. Also write the significance of the same. **07**
- (b) Properly explain primary equipment and software product used in GPS component **07**
