Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER–II EXAMINATION – SUMMER 2016

Subject Code:X20601 **Date:31/05/2016**

Subject Name:ADVANCED SURVEYING

Time:10:30 AM to 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 are the methods of Tacheometry? Differentiate between Fixed hair method and movable hair method. **07**

(b) Explain purpose and principle of Tacheometry. **07**

Q.2 **(a)** Explain various sources of errors in Tacheometry. **07**

(b) Determine the RLs of Points P and Q, a tacheometer was set up at another station R and the following observation were taken, keeping the staff vertical. **07**

Staff at	Vertical angle (Degree)	Stadia readings
P	+ 4	1.2, 1.5, 1.8
Q	- 1	0.9, 1.2, 1.5

Take multiplying and additive constants as 100 and 0.15. RL of R is 120 m and Height of instrument is 1.43 m.

OR

(b) Calculate RL of R & Q if RL of P is 150 m in above example. **07**

Q.3 **(a)** Explain about Electromagnetic waves and Electromagnetic spectrum. **07**

(b) Explain instruments used in soundings. Explain any one. **07**

OR

Q.3 **(a)** Explain in detail fundamentals and uses of Total Station. **07**

(b) Draw a simple circular curve with notations. Explain any Five notations in brief. **07**

Q.4 **(a)** Explain relief displacement. Derive equation to calculate relief displacement. **07**

(b) List the methods of determining the longitude. Explain any two. **07**

OR

Q.4 **(a)** Determine the scale of photograph for terrain lying at elevation of 62 m and 190 m, if vertical photograph was taken at altitude of 1250 m. Take focal length of camera of camera 15 cm. **07**

(b) Define terms in field astronomy: (1) Zenith, (2) Nadir, (3) Horizon, (4) Celestial purpose, (5) Celestial Equator, (6) Declination Circle, (7) Ecliptic **07**

Q.5 **(a)** Explain components of remote sensing **07**

(b) Define GIS. Explain objectives and applications of GIS. **07**

OR

Q.5 **(a)** Explain main components of GIS **07**

(b) Explain in brief Global positioning system **07**

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