Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY PDDC - SEMESTER-II • EXAMINATION - SUMMER • 2014

Subject Code: X20601

Subject Name: Advance Surveying

Date: 20-06-2014

Time: 10:30 am – 01:00 pm

Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.
- Explain in detail the field procedure of plotting a curve which you had carried 07 Q.1 **(a)** out.
 - Determine the gradient from a point P to a point Q from the following 07 **(b)** observations made with a fixed hair tacheometer fitted with an analytic lens, the constant of the instrument being 100.

St.	Bearing	Reading of stadia hair	Reading of	Vertical
			axial hair	angle
To P	340	0.850 2.230	1.540	+12
To Q	70	0.710 3.150	1.930	+08

- **Q.2** (a) Differentiate between 1) fixed hair method and Movable hair method 2) Stadia hair method and Tangential Method
 - Calculate the values of following components of simple circular curve and show 07 **(b)** them in the detailed sketch a) Length of curve b) Tangent length c) Apex Distance d) Mid ordinate. Take radius of curve = 300m and deflection angle = 40.

OR

- Explain Rankine's method of curves. **(b)**
- Q.3 What are the instruments used in sounding? Explain any one in detail. 07 **(a)** Where we use hydrographic survey? Explain the uses of hydrographic **(b)** 07 surveying.

OR

- Q.3 Explain in detail types of curve and its uses. 07 (a) Explain the term 1) Verical control 2) Datum 3) Tidal Datum 07 **(b)** 0.4 **(a)** Explain the term 1) Zenith 2) Nadir 3) Vertical circle 4) Ecliptic 07 What is a photogrammetry? Explain procedure of photogrammetry. 07 **(b)** OR What is an Astronomy? Explain the purpose of astronomy. 07 **Q.4** (a) A vertical photograph was taken at an altitude of 1500m above MSL.Determine 07 **(b)** the scale of photograph for terrain laying at an elevation of 100m and 400m if the focal length of camera is 15 cm. Q.5 **(a)** Explain Key components of GIS. 07 Compare conventional Theodolite and Total station with its advantages and 07 **(b)** disadvantages. OR **Q.5 (a)** Write a brief note on Global Positioning System. 07 **(b)** 07
 - Enlist the types of EDM instruments and explain any one type in detail.

Total Marks: 70

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