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GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER-II • EXAMINATION – WINTER 2013

Subject Code: X20601 Date: 20-12-2013 **Subject Name: Advance Surveying** Time: 02.30 pm - 05.00 pm **Total Marks: 70 Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. What is tacheometry? Write its uses. Q.1 (a) 07 Describe the method of determining the constants of a tacheometer from field 07 **(b)** measurements. Explain the various sources of errors in tacheometry. **07** 0.2 (a) A tacheometer having constants 100 and 0.15 is set at X. The RL of Bench Mark is 350 07 **(b)** meter. Followings are the readings obtained on a staff vertically held. Determine the distance between XY and RL of Y. Instrument staff Vertical Staff Readings in meter. station point angle Bottom Center Top 1.300 2.000 B.M. -6⁰ 2.690 X $+8^{0}$ 1.700 Y 0.900 2.500 OR Explain the various types of curve with neat sketch. 07 Explain the elements of circular curve with neat sketch. 0.3 07 (a) Describe briefly the location of sounding stations by means of 07 **(b)** (a) Cross rope soundings and (b) Intersecting ranges. 0.3 Explain the principle and objectives of photogrammetry. **07** (a) Define: - Flight line, Azimuth, Swing, Tilted photographs, Exposure station, Principal **07 (b)** line, Relief displacement. What are the advantages of EDM instruments? **07** 0.4 (a) Discuss electromagnetic spectrum with neat sketch. 07 **(b)** OR Explain the following terms: 07 0.4 (a) Departure (ii) **Shortest Distance** (i) (iii) Zenith (iv) Spherical triangle Enlist the methods of determining Azimuth. Explain any one method. 07 0.4 **Q.5** (a) Explain components of Remote Sensing. 07 What is GPS? How it is useful in ground truth verification? **(b)** 07 Define Geographical Information System. Explain the objectives of GIS. **Q.5** (a) 07 Explain types of data in GIS software. 07
