Seat No.:	Enrolment No
GUJARAT TECHNOLOGICAL UNIVERSITY	

PDDC - SEMESTER-II • EXAMINATION - WINTER • 2014

Subject Code: X20601 Date: 26-12-2014 **Subject Name: Advance Surveying** Time: 02:30 pm - 05:00 pm **Total Marks: 70 Instructions:** 1. Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. State essential characteristics of a tacheometer. **07 Q.1** (a) What are the types of errors in Tacheometric surveying? Explain 07 **(b) Q.2** (a) Following observation were taken with a tacheometer on vertically held staff 07 **Staff Position** Instrument Vertical Stadia readings Remarks Station angle P 3.50, 2.815, 2.13 RL of station Α $+8^{0}$ 1.90, 1.00, 0.44 A = 1000 Take multiplying constant 50 and additive constant as $\overline{0.4}$. Find reduced level of station **(b)** Explain the Movable hair method in detail. **07** OR What is the purpose of using Anallatic lens? Describe its advantages and dis advantages. **07 (b) Q.3** (a) Explain the following types of curves and describe the locations where they are used? 07 1. Lemniscate 2. Compound curve 3. Reverse curve Derive an expression for "Shift" of a curve. 07 **(b)** 0.3 Draw a simple circular curve with notations. Explain any Five notations in brief. **07** (a) Enlist the linear methods of setting out simple circular curves. Explain any one method **(b)** 07 with sketch. Define - Horizon, Prime Vertical, Ecliptic, Nautical mile, Nadir, Longitude, Nadir point 07 **Q.4** (a) **(b)** Find the hour angle and declination of a star from the following data: 07 Latitude of location – 48° 30' N Azimuth of star - 50° W Altitude of star - 28° 30' OR Explain principle and objective of photogrammetry. 0.4 (a) 07 Write a short note on "Total station" **(b)** 07 What are the electromagnetic waves? Discuss their properties. Q.5 (a) 07 Enlist elements of interpretation in Remote sensing. Explain **(b)** 07 Explain the procedure of operating GIS. **Q.5** 07 (a) Enlist the equipments need for sounding. Explain any one. 07 **(b)**
