Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER– II EXAMINATION – SUMMER 2015

Subject Code: X 20601 Date: 01/06/2015

Subject Name: Advanced Surveying

Time:10.30am-01.00pm 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)** Differentiate between : Stadia method and tangential method **07**

(b) Describe the procedure of tacheometric surveying conducted in the field. **07**

Q.2 **(a)** The following observations were made for two stations A and B to determine the gradient of the line AB. A tacheometer was set up at station O and the staff at A and B was held vertically. **07**

Staff Station	Vertical Angle	Staff Readings
A	$+ 4^0$	1.230, 1.730, 2.230
B	$+1^0$	1.060, 1.510, 1.960

Horizontal angle AB = 40^0 and A = 100 and B = 0

Multiplying constant=95, Additive constant=0.5

(b) Explain the types of errors in tacheometry. What are the permissible errors? **07**

OR

(b) What are the uses of tacheometry surveying? **07**

Q.3 **(a)** Explain the followings:- **07**

(1) Normal chord and Sub chord

(2) Deflection Angle

(3) Mid ordinate

(b) Explain the Transition curve. What are their types? **07**

Q.3 **(a)** What do you understand by sounding in Hydrographic surveying? **07**

(b) What is stereoscope? Explain the classification of stereoscope. **07**

Q.4 **(a)** Explain the followings:- **07**

(1) Horizontal point in Photogrammetry

(2) Azimuth

(3) Axis of tilt

(b) Explain the principles of Photogrammetry. **07**

OR

Q.4 **(a)** What are the special purposes of Total station? **07**

(b) What are the objectives of Field astronomy surveying? **07**

Q.5 **(a)** Explain the followings:- **07**

(1) Ecliptic

(2) Standard time

(3) Nadir

(b) Explain the Electromagnetic energy and EM spectrum. **07**

OR

Q.5 **(a)** What are the components of GIS? Explain in detail. **07**

(b) Explain about the GPS. **07**

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