

GANPAT UNIVERSITY
B. Tech. Semester: 6th Civil Engineering
Regular Examination April-June 2017 (CBCS New Course)
2CI602-Advanced Surveying

Time: 3 Hours

Total Marks: 60

- Instruction:** 1. All questions are compulsory.
 2. Figure to the right indicates full marks.

Section – I

- Que. – 1 (A) How to determine tachometric constant? 05
 (B) Write principal of substance method. 05

OR

- Que. – 1 (A) Explain procedure carry out tacheometry survey on field. 05
 (B) Write short note on errors in tacheometry. 05
 Que. – 2 (A) The following observation were taken using a tacheometer fitted with an anallatic lens, the staff being held vertically. The constant of tacheometer is 100. 05

Instrument Station	Height of axis	Staff station	Vertical Angle	Staff Reading			Remark
P	1.45	B.M.	-6°12'	0.98	1.54	2.10	RL of BM=384.25 m.
P	1.45	Q	+7°15'	0.83	1.36	1.89	
Q	1.57	R	+12°12'	1.89	2.48	3.07	

Determine the distance PQ and QR and RLs of P, Q and R.

- (B) Enlist classification of geodetic survey. And how can you classify geodetic survey? 05

OR

- Que. – 2 (A) The following are the details of tacheometric reading were obtained on a staff vertically held. Calculate PQ and RL of Q. take K=100 and c=0. 05

Instrument Station	Staff Station	Vertical Angle	Hair Reading			Remarks
P	B.M.	-5°30'	1.150	1.800	2.450	RL of BM = 100
	Q	+6°00'	0.790	1.510	2.300	

- (B) Explain types of Triangulation figures with neat sketch. 05

- Que. – 3 (A) Explain principal of Triangulation with neat sketch. 03
 (B) Write short note on Strength of Figure. 05
 (C) Define Following term: 02
 (a) Geodetic Surveying
 (b) Plane Surveying

SECTION-II

- Que. – 4 (A) Write short note on laws of Accidental Error with neat sketch. 05
 (B) Write short note on Determination of probable error. 05

OR

- Que. - 4 (A) The angles of a triangle were recorded as under: 05
A=77°14'20" weight 4
B=49°40'35" weight 3
C=53°04'52" weight 2
Determine corrected values of angles.
- (B) Explain types of Aerial photographs with figure. 05
- Que. - 5 (A) What is field astronomy and write its purpose? 03
- (B) Write down Properties of Earth. 02
- (C) Write short note on relief displacement and derive its equation with neat sketch. 05

OR

- Que. - 5 (A) Write short note on Independent equatorial system with neat sketch. 05
- (B) Write down Advantages & disadvantages of Total station. 03
- (C) Convert following hours in to degree, minutes and seconds. 02
- (a) 18h 11m 38s
- (b) 23h59m50s
- Que. - 6 (A) Two points A and B having elevation of 500 m and 300 m respectively above datum appear on the vertical photograph having focal length of 20 cm and flying altitude of 2500 m above datum. Their corrected photo co-ordinates are: 05

POINTS	Photo co-ordinate	
	X(mm)	Y(mm)
A	+26.5	-13.5
B	+20.8	-30.3

- (B) Write Application and function of GIS. 05

END OF PAPER