GANPAT UNIVERSITY
B.TECH. SEM. VI (CIVIL)
REGULAR EXAMINATION – MAY / JUNE: 2012
C-602:- ADVANCED SURVEYING

Max.Time: 3 Hours   **Max. Marks: 70**

Instructions: -   (1) Answer to the two sections must be written in **separate** answer books.

(2) Figures to the **right** indicate **full** marks.

(3) Assume suitable data if required.

Section – I

1 (A) Find equation of distance and elevation for vertical staff in inclined sight.   **12**

(B) Explain stadia method.

OR

1 (A) Explain cases of error in stadia surveying.   **12**

(B) The elevation of a point P is to be determined by observations from two adjacent stations of a tacheometric survey. The staff was held vertically upon the point, and the instrument is fitted within an analytic lens, the constant of the instrument being 100. Compute the elevation of the point P from the following data, taking both the observation as equally trustworthy:

Inst. Station	Height of axis	Staff point	Vertical angle	Staff reading	Elevation of station
A	1.42	P	+ 3° 36'	1.23, 2.055, 2.88	77.75m
B	1.40	P	-2° 54'	0.785, 1.8, 2.815	97.135m

Also, calculate the distance of A and B from P.

2 (A) Explain signal and tower with sketch.   **11**

(B) Characteristic of signal.

OR

2 (A) System of framework.   **11**

(B) Characteristic of signal.

3 (A) Explain in detail nature of error.   **12**

(B) Following angles were measured at a station. Find their most probable values.

Angle	Values	Weight
AOB	$175^0\ 28'\ 20"$	3
BOA	$185^0\ 30'\ 30"$	6

Section - II

4 **(A)** Write note on Standard time. 12

    (B) Write note on spherical triangle and its properties.

OR

4 **(A)** What is the Indian hour as per GTM? Convert hours into degrees, minutes and seconds. Which country have 0:00 hours as per GTM? 12

    (B) Define following terms:
The Celestial Sphere, The Zenith and Nadir, The Celestial Poles and Equator, The Latitude, The Longtude, The Altitude, The Azimuth

5 **(A)** Explain scattering. Why color of sky is blue in noon and orange or red at sunrise and sunset. 11

    (B) Write note on electromagnetic waves.

OR

5 **(A)** Write short note on EDM. 11

    (B) Idealized Remote Sensing system.

6 **(A)** Write short note on stereoscope. 12

    (B) A camera having focal length of 15cm is used to take a vertical photograph to a terrain having an average elevation of 1300meters. What is the height above mean sea level at which an air-craft must fly in order to get the scale of 1:7000.

END OF PAPER