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Reg. No. : .....

Name : .....

Fourth Semester B.Tech. Degree Examination, June 2017
(2008 Scheme)
08.405 : SURVEYING – II (C)

Time : 3 Hours Max. Marks : 100

***Instruction** : Answer **all** questions from Part **A** and Part **B**.*

PART – A

I. 1) Explain the criteria for selection of triangulation stations.

2) Explain satellite stations and reduction to centre.

3) Explain the following :

a) Direct observation

b) Indirect observation

c) Observation equation

d) Condition equation.

4) Explain the various types of circular curve.

5) What are the requirements of an ideal transition curve ?

6) Explain azimuth and declination

7) Explain scale of a vertical photograph.

8) Distinguish between amplitude modulation and frequency modulation.

(8×5=40 Marks)

PART – B

Answer **one full** question from **each** Module.

Module – I

II. a) Explain the corrections to base line measurement. **10**

b) The altitudes of two proposed stations A and B, 150 km apart are respectively 400 m and 750 m. The intervening obstruction situated at C, 80 km from A has an elevation of 498 m. Ascertain if A and B are intervisible and if necessary, find how much B should be raised so that the line of sight must nowhere be less than 2 m above the surface of the ground. **10**

OR

III. a) Explain the determination of probable error of computed quantities. **10**

b) Find the most probable values of angles A, B and C of a triangle ABC from the following observation equation

A = 68° 12′ 36″

B = 53° 46′ 12″

C = 58° 01′ 16″ **10**

Module – II

IV. a) With the help of a neat sketch explain the elements of a reverse curve. **10**

b) Two straights AB and BC are intersected by a line D_1 D_2. The angles BD_1D_2 and BD_2D_1 are 45° 30′ and 31° 20′ respectively. The radius of the first arc is 600 metres and that of the second arc is 750 metres. If the chainage of intersection point B is 8248 metres, find the chainages of the tangent points and the point of compound curvature. **10**

OR

V. a) Explain the terms : (i) Astronomical triangle (ii) Star at Elongation (iii) Star at prime vertical. **10**

b) Find the shortest distance between two places A and B, given that the longitudes of A and B are 15° 30′ N and 14° 10′ N and their longitudes are 50° 20′ E and 62° O′ E respectively. Find also the direction of B on the great circle route. Radius of earth = 6370 km. **10**

Module – III

VI. a) Explain relief displacement and object height determination from relief displacement. **10**

b) The ground length of a line AB is known to be 545 m and the elevations of A and B are respectively 500 m and 300 m above m.s.l. On a vertical photograph taken with a camera having focal length of 20 cm include the images a and b of these points, and their photographic coordinates are (x_a = +2.65 cm, y_a = +1.36 cm); (x_b = –1.92 cm, y_b = +3.65 cm). The distance ab scaled directly from the photograph is 5.112 cm. Compute the flying height above seas level. **10**

OR

VII. a) Explain the different types of distomats and its uses. **10**

b) What is total station ? Explain the principle and procedure of surveying using total station. **10**