Register Number……

B.E. DEGREE EXAMINATIONS: NOVEMBER 2009

Fourth Semester

CIVIL ENGINEERING

U07CE404: Surveying II

Time: Three Hours **Maximum Marks: 100**

Answer ALL the Questions:-

PART A (10 x 1 = 10 Marks)

1. Anallactic lens is generally provided in

   a) External focusing telescope b) Internal focusing telescope

   c) Tilting level d) Rotating telescope

2. The multiplying constant is denoted by

   a) f/i b) i/f c) ixf d) f^2/i^2

3. In triangulation name the only line whose measurement is taken

   a) Base line b) Top line c) Parallel Line d) Cross Line

4. In the reciprocal leveling the error which is not fully eliminated is due to

   a) earth's curvature b) Inclined line of sight c) refraction d) bearing of a place

5. True error is the difference between

   a) True value and observed value b) Observed value and most probable value

   c) Most probable value and most probable error d) Most probable error and true value

6. The weight of arithmetic mean measurements is equal to

   a) sum of individual weights b) number of observations

   c) sum of reciprocal of weights d) a constant

7. The celestial Horizon is great circle

   a) is traced upon the celestial sphere by that plane which is perpendicular to zenith nadir line

   b) Between the celestial poles and equator

   c) Passing through the north and south poles

   d) passing through the latitude of a place

8. What is standard time?

   a) Time associated with latitude of a place b) Mean time of a place

   c) The mean time Associated with standard meridian d) Time associated with average time

9. The scale of vertical photograph

   a) $\frac{map\ distace}{groun\ ddistace}$ b) $\frac{ground\ distace}{map\ distace}$

   c) is equal to the vertical distance d) is equal to horizontal distance

10. Parallax can be measured using

    a) Sub tense bar b) Parallax bar c) Plane table d) Theodolite

PART B (10 x 2 = 20 Marks)

11. What are the different systems of Tacheometry?
12. What is a Subtense bar?
13. What are the different types of direct reading tacheometers?
14. What is the principle of tacheometry?
15. What is Triangulation in surveying?
16. What is meant by figure adjustment?
17. What is a closed circuit?
18. Name the different types of tide gauges?
19. What are the different stages of aerial photogrammetry?
20. What are Mosaics?

PART C (5 x 14 = 70 Marks)

21 a) The following notes refer to a line leveled tacheometrically with anal lactic tachometer, the multiplying constant being 100.

Inst Station	H Height of Inst axis	Staff Ss station	Vertical angle	Stadia hair readings T - M - B	Remarks
P	1.3	B.M	-6°12’	0.963, 1.515, 2.067	R RL of B.M 500m.Staff being held vertically
P	1.3	Q	+7°5’	0.819, 1.341, 1.863	
Q	2.0	R	+12°27’	1.860, 2.445, 3.03	

Compute the R.L’s of P, Q & R and the horizontal distances of PQ and QR

(OR)

b) Explain about the different triangulation systems?

22 a) i) What is meant by axis signal correction? (4)

ii) The following data refer to the elevation at ground station in trignometrical survey. Find the difference in level between two points.

A & B. Take R sine 1”=30.88m

Angle of elevation of B at A = 1° 56’ 10”

Angle of depression of A at B = 1° 56’ 52”

Distance AB = 7879 m

Height of signal at A = 4.07 m

Height of signal at B = 3.87 m

Height of instrument at A = 1.27m

Height of instrument at B = 1.48 m (10)

(OR)

b) i) The following observations of three angles A, B,C were taken at one station

A=75°32’ 46.3” with weight 3

B=55°09’ 53.2” with weight 2

C=108°09’ 28.8” with weight 2

A+B =130°42’41.6” with weight 2

B+C= 163°19’22.5” with weight 1

A+B+C=238°52’9.8” with weight 1

Determine the most probable value of angle A B C (10)

ii) Explain the Laws of weights (4)

23 a) What are the different methods of locating soundings? Explain.

(OR)

b) i) A B C are three visible stations in a hydrographic survey. The computed sides of triangle ABC are AB = 1130m,BC = 1372 m, CA = 1889m outside the triangle and nearer to AC a station P is established and its position is to be found by three points A B C and the angles . The angles are <APB = 42 °35’ and <BPC = 54° 20’. Determine the distance PA and PC. (10)

ii) Explain about Electromagnetic Distance Measurement equipments? (4)

24 a) Explain how the maps are made in phogrammerty?

(OR)

b) Explain the method of plotting the soundings when three shore signals and two angles at the point of the boat are given.

25 a) Write in detail how the most probable values of a quantity can be determined.

(OR)

b) Narrate with help of figure the adjustment of chain of triangles

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