KUMARAGURU college of technology
character is life

B.E DEGREE EXAMINATIONS: MAY 2015

(Regulation 2013)

Fourth Semester

CIVIL ENGINEERING

U13CET401:Surveying II

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. An example for instrumental error in leveling is
   a) Earth's curvature and atmospheric refraction
   b) collimeter error
   c) Wearing of shoe of level staff
   d) defective tripod

2. Local attraction at a place may be due to _____.

3. Tachometry is best suited
   a) Where chaining is impossible
   b) for populous areas
   c) in broken grounds
   d) for extremely accurate survey

4. In a simple curve, external distance is the distance between_____.

5. Astronomical surveying is done
   a) In the early evening
   b) during night
   c) during noon
   d) during evening

6. An instrument used to find slopes of ground is_____.

7. Correction for slope is _____
   a) $h^2/2l$
   b) $h^2/2l^2$
   c) $2h/l^2$
   d) h/l

8. The length of an engineer's chain is _____.

9. Azimuth is another name
   a) to true bearing of a line
   b) to true angle of a line
   c) to true rise of a place
   d) to the true latitude of a place

10. Soundings are useful surveys like_____.

PART B (10 x 2 = 20 Marks)
(Not more than 40 words)

11. What are soundings?

12. What are the two assumptions in astronomical surveying?

13. What is triangulation surveying?

14. Define the term GTS Bench mark. State the use of it.

15. When is reverse curve used?

16. List errors in stadia surveying.

17. What are base lines in surveying?

18. Define level nets.

19. What are the surveying errors in handling total station?

20. What is trilateration?

PART C (5 x 14 = 70 Marks)
(Not more than 400 words)

Q.No. 21 is Compulsory

21.   Compare electro-optical and microwave system. What are the care and maintenances given to total station in surveying?

22. a) (i) What are the objectives of introducing a transition curve? (4)

      (ii) Two straights intersect at chainage 6000m , the deflection angle being 40°. (10) Calculate all the data necessary for setting out a 5° circular curve connecting the two straights by Rankine's method of tangential angles.

(OR)

   b) Sketch the types of vertical curves. Also explain the two theodolite method of setting out a simple circular curve.

23. a) How do you select a base line? Explain how the length of a baseline is measured accurately.

(OR)

b) What do you mean by

        i.) Satellite station

        ii.) Reduction to centre

24. a) (i) Find the most probable values of angles A, B and C of triangle ABC from the following observation   (10)

        LA= 68° 12' 36"

        LB=53° 46' 12 "

        LC=58° 01' 16"

    (ii) Define true and most- probable values   (4)

(OR)

b) (i) State the principle of least squares   (4)

    (ii) What are the sources of error in surveying? What are the precautions and corrections?   (10)

25. a) Calculate sun's azimuth and hour angle at sunset at a place in latitude 42°30'N when its declination is 22 °12'E.

(OR)

b) (i) Write the various applications of remote sensing   (7)

    (ii) How will you conduct remote survey for water ways?   (7)

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