Register Number: ……

B.E. DEGREE EXAMINATIONS: NOV/DEC 2010

Third Semester

CIVIL ENGINEERING

CEE 106: Surveying – I

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

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1) A chain is made up of mild steel or galvanized iron wire of diameter

   (a)1 mm (b) 4 mm (c) 5 mm (d) 1 cm

2) Reciprocal ranging is adopted when the following is encountered

   (a) A dense forest (b) a hillock (c) a river (d) a tall building

3) The variation of magnetic declination within a day is called

   (a) Diurnal variation (b) irregular variation (c) annual variation (d) secular variation

4) The technique of plotting all the accessible stations with a single set up of plane table is called

   (a) Radiation (b) intersection (c) resection (d) traversing

5) Level line and horizontal line are

   (a) The same for longer distances (b) both straight lines

   (c) never the same (d) same for smaller distance

6) Due to curvature of earth the object looks

   (a) Higher than it is (b) lower than it is (c) as it is (d) curved

7) Turning the telescope in vertical plane about the horizontal axis is called

   (a) Transiting (b) plunging (c) swinging (d) both a & b

8) If the vertical circle verniers do not read zero when the line of sight is horizontal, the error is called

(a) Zero error (b) residual error (c)vernier error (d) index error

9) Anallactic lens is a

(a) Convex lens (b) concave lens (c) plano convex lens (d) plain lens

10) Anallactic lens is provided to

(a) Nullify tachometric constants (b) make additive constant zero

(c) Improve visibility (d) none of the above

PART B (10 x 2 = 20 Marks)

11) Differentiate plane surveying and geodetic surveying

12) The plan of an area has shrunk such that a line originally 10cm now measured 9.5cm. If the original scale of the plan was 1cm=10m, what is the distance corresponding to a measured distance of 190m?

13) Differentiate magnetic declination and magnetic dip

14) Define : orientation of plane table

15) What do you understand by elimination of parallax?

16) Write down different methods of leveling

17) Write down the fundamental axes of a theodolite

18) What are the functions of tangent screws of a theodolite

19) What are the limitations of tachometric surveying?

20) Write down essential characteristics of a tachometre.

PART C (5 x 14 = 70 Marks)1

21. a) Explain any seven functional classification of surveying.

(OR)

b) Write down suggested scales for any seven types of survey.

22. a) (i) Explain variation of magnetic declination. (7)

(ii) Differentiate prismatic and surveyor's compass. (7)

(OR)

b) Explain plane table traversing.

23. a) Explain any seven classification of direct leveling methods.

(OR)

b) Explain characteristics of contours with sketch.

24. a) Explain method of repetition and reiteration.

(OR)

b) Explain heights and distance using a theodolite.

25. a) Derive the distance and elevation formula with inclined line of sight and staff vertical, for both angle of elevation and depression.

(OR)

b) Explain anallactic lens with derivation.

****