THIRD SEMESTER B. TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2009

Civil Engineering

CE 04 305 – SURVEYING – II

(2004 Admissions)

Time : Three Hours   Maximum : 100 Marks

*Answer **all** questions.*

Part A

1. (a) Define the term 'tacheometry' and list out its merits and demerits.

    (b) Differentiate between the fixed-hair method and the movable-hair method.

    (c) What considerations you would have while selecting the site for the base line?

    (d) Write short notes on Heliotropes and Luminous signals.

    (e) What are the uses of field astronomy in surveying?

    (f) Briefly write a note on co-ordinate systems.

    (g) Distinguish between a compound curve and reverse curve.

    (h) What is photogrammetry? Discuss its limitations.

                                   (8 × 5 = 40 marks)

Part B

2. (a) (i) How would you locate details in a tacheometric traverse?

          (ii) Explain the use of a tacheometer in contour surveying.

                                   (7 + 8 = 15 marks)

    Or

    (b) What is a compound curve? Derive relationships between various elements of a compound curve.

                                   (15 marks)

3. (a) Discuss various methods of locating soundings in hydrographic surveying.
                          Or

    (b) Describe the various methods for the location of a shore line.

                                   (15 marks)

4. (a) (i) What is a satellite station? How would you reduce the horizontal angles?

    (ii) What are the factors that affect the selection of triangulation stations?

    (9 + 6 = 15 marks)

Or

(b) Discuss method of determining ground co-ordinates from the photo co-ordinates.

    (15 marks)

5. (a) (i) How would you determine the length of a vertical curve?

    (ii) What is the sight distance? What is its importance in the design of a vertical curve?

    (7 + 8 = 15 marks)

Or

(b) Discuss the method of determination of the difference of elevations of the instrument station and the top of a chimney when it is not possible to set the instrument at two stations P and Q in the same vertical plane as the chimney.

    (15 marks)

    [4 × 15 = 60 marks]