Code :9A01303 **R9**

II B.Tech I Semester(R09) Supplementary Examinations, May 2011
SURVEYING
(Civil Engineering)

Time: 3 hours **Max Marks: 70**

Answer any FIVE questions
All questions carry equal marks

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1. (a) Explain the principle on which chain survey is based.
   (b) What factors should be considered in deciding the stations of a chain survey?
2. (a) What is declination? What are different types of variations in declination?
   (b) In an old survey made when the declination was 4^0 W, the magnetic bearing of a given line was 210^0. The declination in the same locality is now 10^0 E. What are the true and present magnetic bearing of the line?
3. (a) Explain briefly fly levelling and reciprocal leveling.
   (b) The following readings were taken with a level in sequence as follows:
   1.585, 1.315, 2.305, 1.225, 1.325, 1.065, 1.815 and 2.325
   The level was shifted after the third and sixth readings. The second change point was a bench mark of elevation 150.375m. Find the reduced levels of the remaining stations. Use the rise and fall method.
4. (a) List the general methods of calculating area.
   (b) Explain any one method giving its advantages, limitation and suitability for a given type of work.
5. Give a list of the permanent adjustments of a transit theodolite and state the object of each of the adjustment. Describe how you would make the Trunnion axis perpendicular to the vertical axis.
6. (a) How will you find the constants of a tacheometer? Explain with neat sketch.
   (b) What is an analytic lens? State the advantages and disadvantages of it.
7. (a) Why are the curves provided. Explain different types of curves with neat sketches.
   (b) Two straights intersect at a chainage of 3500.5m with an angle of intersection of 156^0.These two straights are to be connected by a simple circular curve of 200m radius.Calculate the data necessary by the method of offsets from the chords produced with a peg interval of 20m.
8. Discuss in detail the advantages and disadvantages of the Total Station surveying over traditional methods of surveying.

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