01405

Diploma in Civil Engineering / Diploma in Electrical and Mechanical Engineering

Term-End Examination

June, 2012

BET-023 : ELEMENTS OF SURVEY

Time : 2 hours *Maximum Marks : 70*

Note : *Question number **1** is **compulsory**. Attempt **any four** questions from the remaining. **All** questions carry **equal** marks.*

1. Select the most appropriate answer for each of the following multiple choice objective type questions : **7x2=14**

(a) Difference in Fore bearing and back bearing of a line is

(i) 270° (ii) 180°

(iii) 360° (iv) None of the above

(b) Plane label survey is used for :

(i) Small area

(ii) Large area

(iii) Hilly area

(iv) None of the above

(c) Horizontal Equivalent is :

(i) Horizontal difference

(ii) Vertical difference

(iii) Bearing difference

(iv) None of the above.

(d) R.L. of a point is the Elevation from :

(i) Datum

(ii) Bench Mark

(iii) Line of sight

(iv) None of the above

(e) Ist reading on B.M. is called :

(i) Back sight

(ii) fire sight

(iii) Inter mediate sight

(iv) None of the above

(f) Optical square is used to draw :

(i) Parallel line

(ii) Perpendicular line

(iii) Oblique line

(iv) None of the above

(g) Least count of Vernier transit theodolite is :

(i) $30'$ (ii) $30''$

(iii) $20'$ (iv) $1°$

2. (a) What do you mean by two point problem ? How can it be solved ? 7

(b) Explain the temporary adjustment of a theodolite. 7

3. (a) Discuss various precautions to be taken in a plane table survey. 7

(b) Explain characteristics of contours with the help of neat sketches. 7

4. Measurements of Fore and Back bearings, while running a traverse ABCDE, are recorded in the table given below : 14

Side	AB	BC	CD	DE	EA
FB	$191°-45'$	$39°-30'$	$22°-15'$	$342°-45'$	$330°-15'$
BB	$13°-0'$	$222°-30'$	$200°-30'$	$62°-45'$	$147°-45'$

It is suspected that reading at some survey stations were effected by local attraction. Find the stations affected by local attraction and find the corrected bearings of lines.

5. Explain ***any four*** of the following : **3½x4=14**

(a) Radiation method of plane tabling

(b) Methods of contouring

(c) Traversing by theodolite

(d) Local attraction

(e) Error in chain survey

6. (a) A 30 m chain was found to be 3 cm too long after chaining 1800 m. The same chain was observed to be 5 cm too long after chaining the total distance of 3600 m. Assuming that the chain was correct at the commancement of work find the true length of total distance chained. 7

(b) Explain the procedure of measuring bearing with prismatic compass. 7

7. Draw a neat sketch of dumpy level showing the names of parts. 14