BACHELOR OF ARCHITECTURE (BARCH)

Term-End Examination

June, 2012

BAR-056 : TOPOGRAPHIC SYSTEMS

00475

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any five questions. All questions carry equal marks. Use of calculator is permitted.*

1. (a) Discuss classification of survey by function. 7
    (b) What are the aspects of surveying for the Architect ? 7

2. (a) Name various instruments used in chain and compass survey. State the use of each in surveying. 7
    (b) A chain line ABC crosses a river, B and C being on the near and distant banks of river respectively. The respective bearings of C and A taken at D, a point 60 m measured at right angle to AB from B are 280° and 190°, AB being 32 m. Find the width of the river. 7

3. (a) Explain the following terms : 7
    (i) Local Attraction
    (ii) Magnetic Bearing
    (iii) True Bearing
    (iv) Closing error

(b) The followings are the bearings of the sides   7
of a closed traverse ABCD :

Line	Fore Bearing
AB	40°
BC	70°
CD	210°
DA	280°

Calculate the interior angles of the traverse.

4. (a) Explain briefly various methods used for   7
Plane Table Survey.

(b) The following staff readings were observed   7
successively with a Dumpy Level. The Level
having been moved after third, sixth and
eighth readings :

2.225, 1.605, 0.985, 2.090, 2.865, 1.260,
0.605, 1.980, 1.045 and 2.685 m.

Enter the above readings in a page of a level
book and calculate the R.L. of points, if the
first reading was taken with a staff held on
a bench mark of 432.50 m.

5. (a) Describe temporary adjustments of a   7
Dumpy Level.

(b) Define contour and state various   7
characteristics of contour.

6. (a) Draw a neat sketch to show various parts   7
of a Theodolite. What are the uses of a
Theodolite ?

   (b) Name the various instruments used in Plane   7
Table survey and also mention their use.

7. (a) Define *any three* of the following terms :   3x2=6
   (i)   Face right and Face left observation.
   (ii) Bench Mark
   (iii) Line of Collimation
   (iv) A Level Line
   (v)   Reduced Level

   (b) Describe the process of measuring a   8
horizontal angle with the help of a
Theodolite by the method of repetition.

8. Write short notes on *any four* of the following :
   $4 \times 3\frac{1}{2} = 14$
   (a) Reciprocal Levelling.
   (b) Fundamentals of G.I.S.
   (c) Uses of contour maps.
   (d) Basic principles of surveying.
   (e) Methods of chaining along a sloping
       ground.
   (f) Instruments used in chain and compass
       survey.
   (g) Orientation of Plane Table.

—————