

BACHELOR OF ARCHITECTURE (BARCH)

Term-End Examination

June, 2011

BAR-056 : TOPOGRAPHIC SYSTEMS

01484

Time : 3 hours

Maximum Marks : 70

Note : Answer any five questions. All questions carry equal marks.

1. (a) Discuss the aspects of surveying for an Architect. 7
- (b) Discuss briefly the various instruments used in surveying field work. 7
2. (a) Explain the fundamental principles to be observed while surveying an area. 7
- (b) Discuss the classification of surveying on the basis of function and purpose of surveying. 7
3. (a) A straight line is measured with a steel tape. What corrections will you apply to the measured length of the line to know its correct length ? 7

- (b) A distance of 3500 m was measured by a 20 m. chain having its actual length 2 cm too short. Calculate the correct distance between the two points stating whether the correction is positive or negative ? If the same distance is measured again by a 20 m chain which is 2 cm too long. What will be the observed length ? 7
4. (a) How do you overcome the obstacles in chain surveying which obstruct 7
- (i) Chaining
 - (ii) Ranging and
 - (iii) Both Chaining and Ranging
- (b) Differentiate between :- 7
- (i) Prismatic. Compass and Surveyor's Compass.
 - (ii) Magnetic meridian and True meridian
 - (iii) Local attraction and Declination
 - (iv) Fore Bearing and Back Bearing
5. (a) Following bearings were observed with a compass for a closed traverse :- 10

Line	F.B	B.B
AB	16° - 45'	198° - 00'
BC	224° - 30'	47° - 30'
CD	207° - 15'	25° - 45'
DE	67° - 45'	247° - 30'
EA	155° - 15'	332° - 45'

- (i) Correct the bearings for local attraction, if any.
- (ii) Calculate the interior angles
- (iii) If the declination is $2^{\circ}-30'$ west. Calculate the true bearings.
- (b) What are the sources of error in compass surveying ? 4
6. (a) Explain the temporary adjustment of a transit theodolite. 7
- (b) What are the accessories required in a Plane Table Survey ? Also discuss their uses. 7
7. (a) What are contours ? State important characteristics of contours. 7
- (b) The following readings were taken by a 4 m levelling staff :- 7
- 0.875, 1.225, 1.285, 1.425, 1.165, 0.785, 0.925, 1.225, 2.825, 0.895, 1.255, 1.685, and 0.915.
- The Dumpy Level was shifted after 5th and 9th reading. Enter the data in level field book and calculate R.L. of all the points, if first reading was taken on B.M having R.L. 100.00 m.

8. Write short notes on *any four* of the following :

- (a) Orientation of Plane Table 3½x 4=14
 - (b) Methods of Contouring
 - (c) Fundamentals of G.I.S.
 - (d) Care of Surveying Instruments
 - (e) Tape corrections
 - (f) Reciprocal Ranging
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