

# SCHOOL OF PLANNING AND ARCHITECTURE, VIJAYAWADA

SEMESTER END EXAMINATIONS (REGULAR), NOVEMBER-2015

B.ARCH, I YEAR I SEMESTER

LANDFORMS SURVEY & ANALYSIS (10110104)

Maximum Marks – 50

Time – 2.00 Hours

a) Answer any Two out of 1 to 4 questions.

b) Question No. 5 is compulsory and answer any four sub questions.

c) Scientific calculator is allowed.

- Q1. (a) State the classification of survey based Instruments used and state its objectives of each instrument. (10M)
- (b) (i) A triangle is said to be \_\_\_\_\_ when no angle in it is less than  $30^\circ$  or more than  $120^\circ$ . (1M)
- (ii) When both the end survey stations are not intervisible due to high ground or a long distance between them, the ranging is done by \_\_\_\_\_ (1M)
- (iii) Which instrument is used for setting out right angles : [ ] (1M)
- (a) French cross-staff (b) Cross-staff  
(c) Optical square (d) All the above
- (iv) The ranging rod is used [ ] (1M)
- (a) To mark at the end of the chain  
(b) To mark the survey stations  
(c) Both a & b (d) None of these.
- (v) The chain is 66feet long and having 100 links [ ] (1M)
- (a) Metric chain (b) Engineer's chain  
(c) Gunter's chain (d) Revenue chain.
- Q2. (a) Calculate the area of plot in Acres. Using the following field book entries : (10M)

	$\triangle E$	All dimensions are in meters
D 20	250	
C 40	120	
	100	
	o	
	$\triangle A$	60 B

- (b) State the various types of obstacles in chaining with an example to each type. (5M)

P.T.O

Q3. (a) Distinguish between a closed and an open traverse

Where each is used.

(5M)

(b) The bearings observed in a traverse survey, at a place where local attraction was suspected are given below: (10M)

Line	FB	BB
AB	$124^{\circ} 30'$	$304^{\circ} 30'$
BC	$68^{\circ} 15'$	$246^{\circ} 00'$
CD	$310^{\circ} 30'$	$135^{\circ} 15'$
DA	$200^{\circ} 15'$	$17^{\circ} 45'$

At what stations do you suspect local attractions? Find the corrected bearings of the lines.

Q4. (a) Define counter mapping and state its uses. (5M)

(b) The following consecutive readings were taken with a level and a 4m levelling staff on a continuously sloping ground at common intervals of 30m. (10M)

0.855(on A), 1.545, 2.335, 3.115, 3.825, 0.455, 1.380, 2.055, 2.855,

3.455, 0.585, 1.015, 1.850, 2.755, 3.845(on B). The RL of A was 380.500m. Make entries in a level field book and calculate RL's and apply check.

Q5. (i) The length of a line was found to be 600m when measured with 20m chain. If the chain is 15cm too short, find out the correct length of line. (4x5=20M)

(ii) Convert the following bearings from one system to another system

(a)  $310^{\circ} 30'$  (b)  $60^{\circ} 45'$  (c)  $145^{\circ} 15'$

(d) N  $48^{\circ} 30'$  W (e) S  $50^{\circ} 50'$  E

(iii) State the classification of levelling.

(iv) State the uses of theodolite .

(v) Define Bench mark and explain briefly types of Bench marks.

(vi) State the parts of Total Station Survey.