

GUJARAT TECHNOLOGICAL UNIVERSITY

BA - SEMESTER-III EXAMINATION – WINTER 2018

Subject Code:1035006

Date:10/12/2018

Subject Name:Surveying and Levelling

Time:10:30 AM TO 12:30 PM

Total Marks: 50

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q-1 (a)** Define surveying .Explain its uses in field. [3]
(b) Differentiate between plain survey and geodetic survey. [2]
(c) Fill in the blanks [5]
i 100 sq.yards =.....sq.feet
ii 400 sq.yard =.....sq. mts
iii In metric chain nos of links =.....
iv 1:1600 R.F scale can written in words.....
v In prismatic compass readings mark on North is($0^\circ, 180^\circ, 90^\circ$)

- Q-2 (a)** Describe plain scale and Draw a plain scale of RF 1:500 to represents 59 m on the scale. [10]

OR

- (a) Write types of chain. Explain metric chain with sketch [10]
(b) A 20 m chain was found to be 8 cm too long after chaining a distance of 4000 m. It was tested at the end of day's work and found to be 10cm long after chaining a total distance of 7800 m. If the chain was correct before the commencement of the work, find the true distance. [10]

- Q-3 (a)** Convert following W.C.B. In to R.B. [4]

(a) $51^\circ 15'$ (b) $134^\circ 30'$ (c) $248^\circ 15'$ (d) $339^\circ 10'$

- (b) List instruments used for plain table survey with sketch? [4]

OR

- Q-3** Following bearings of closed traversed ABCDA is given calculate the included angles and give the check. [8]

LINE	F.B	B.B
AB	$321^\circ 30'$	$141^\circ 30'$
BC	$209^\circ 30'$	$29^\circ 30'$
CD	$134^\circ 15'$	$314^\circ 15'$
DA	$54^\circ 45'$	$234^\circ 45'$

- Q-4 (a)** The following consecutive readings was taken with a level and 5 m leveling staff on continuously sloping ground at a common interval of 20 meter. 0.385, 1.030, 1.925, 2.825, 3.730, 4.685, 0.625, 2.005, 3.110, 4.485. The reduced level of the first point was 208.125 mt. Calculate the reduced levels of the points by Line of collimation method. Also find the gradient of the line joining the first and last point. [8]

- (b) Write characteristics of contours draw the sketch for contour of hill and pond [4]

OR

- (b) What is setting out a building.sketch centered – line- rectangle method [4]