

**PARUL UNIVERSITY**  
**FACULTY OF ARCHITECTURE & PLANNING**  
**B.Arch. Summer 2018-19 Examination**

**Semester: 5**  
**Subject Code: 01101304**  
**Subject Name: Surveying & Leveling**

**Date: 24/04/2019**  
**Time: 10:00 am to 12:00 pm**  
**Total Marks: 50**

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever required.
4. Draw suitable sketches wherever required.

**Q.1** The following reading was taken with dumpy level and 4m levelling staff, on a continuous sloping ground at common interval of 30m. **(10)**

0.855, 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.

The R.L. was 380.500. kindly show check for rise and fall method.

**Q.2** Attempt any five out the following six: **(20)**

1) Fill in the blanks

- 1 meter = \_\_\_\_\_ feet  
 1 foot = \_\_\_\_\_ inches  
 1 chain = \_\_\_\_\_ links  
 1 sq. yard = \_\_\_\_\_ sq. feet.  
 1 sq. km = \_\_\_\_\_ hectares

2) Fill in the blanks (any four out of five)

1. The difference between fore bearing and back bearing is \_\_\_\_\_.
2. The line connecting equal point of elevation is called \_\_\_\_\_.
3. If the graphical presentation is carried out in small scale is called \_\_\_\_\_.
4. The length of one link in metric chain is \_\_\_\_\_.
5. In chain surveying the subsidiary station is denoted by \_\_\_\_\_ symbol.

3) Explain the procedure of Field work in Layout of the site.

4) Convert following WCB TO RCB

**i** 20°30', **ii.** 90°00', **iii.** 179°12', **iv.** 208°42', **v.** 327°03'

5) The following are bearing observed in traverse ABCDEA with a compass an area where local attraction was suspected. Calculate the interior angle of the traverse and correct them if necessary.

<b>Line</b>	<b>FB</b>	<b>BB</b>
AB	150° 00°	330°00°
BC	230° 30°	48°00°
CD	306°15°	127°45°
DE	298°00°	120°00°
EA	49°30°	229°30°

6) Explain the instruments used in chain survey, describe any two of them with neat sketch.

**Q.3** Explain the following: (any five) **(10)**

- a) Magnetic meridian
- b) Bench Mark
- c) Bearing of Line
- d) Direct ranging
- e) True meridian
- f) Whole Circle Bearing

**Q.4** Answer the following: (any two) **(10)**

1. Precaution against errors and mistakes in chain surveying.
2. What is scale? Explain method of representing scales.
3. Pole of surveying in architecture field.