Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

B.Tech. Winter 2018 - 19 Examination

Semester: 1 **Date: 15/12/2018**
Subject Code: 203104102 **Time: 2:00pm to 4:30pm**
Subject Name: Elements of Civil Engineering **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions **(15)**

1. The line joining points of equal elevation (RL) is known as
   a) Horizontal line b) Gradient line
   c) Contour line d) Level line
2. Principle of chain survey is
   a) Triangulation b) Traversing
   c) Parallelism d) Orientation
3. The actual size of a modular brick is
   a) 19 cm x 9 cm x 9 cm b) 19 cm x 19 cm x 9 cm
   c) 9 cm x 9 cm x 9 cm d) 19 cm x 19 cm x 19 cm
4. The top view of a building is known as
   a) Plan b) Elevation
   c) Section d) Details
5. A horizontal structural member provided above the window opening is called
   a) Plinth b) Lintel
   c) Sill d) Jamb
6. Define Representative Fraction (R.F).
7. What are the components of concrete.
8. Define MSL.
9. Convert WCB to QB for the angle 210°
10. What is meant by offset?
11. A mixture of cement, sand and water is known as _____.
12. The number of links in a 20 m metric chain is _____.
13. If the back bearing of a line is N 50° E, its fore bearing is _____.
14. If scale of a map is 1 cm = 2 m, its R.F is _____.
15. The portion of the building below ground level is called _____.

Q.2 Answer the following questions. (Attempt any three) **(15)**

A) Define the following: BM, RL, MSL, BS, FS

B) Differentiate between plane surveying and geodetic surveying.

C) What is dampness? What are the various causes of Dampness?

D) What is surveying? What are the fundamental principles of surveying?

Q.3 A) Differentiate between Prismatic compass and Surveyor's compass. **(07)**

B) State the principles to be applied while planning a building. Explain any three.

OR

B) The following staff readings were observed successively with a dumpy level. The instrument is moved by 3rd, 6th and 8th readings. **(08)**

1.850, 1.965, 1.675, 2.255, 2.360, 2.690, 0.685, 0.780, 0.965, 1.125

Enter the readings in record book and calculate RL using **Rise and Fall method** if the first reading was taken at a BM of 150.00m

Q.4 A) In a closed traverse the following bearings were observed with a compass. Calculate the interior angles. **(07)**

Line	**Fore Bearing**
AB	65° 00′
BC	125° 30′
CD	200° 00′
DE	265° 15′
EA	330° 00′

OR

A) Convert WCB to RB : 190°, 260°, 315°, 250° **(07)**

Convert RB to WCB : S 50° E, S 20° W

B) What are the properties of a good brick? **(08)**