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

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

B. Tech. Summer 2017-18 Examination

Semester: 1, 2 **Date: 04/06/2018**
Subject Code: 03104102 **Time: 02:00pm to 04:30pm**
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. What is the full form of MSL in surveying?
   a) Mumbai Sea Level b) Main Sea Land
   c) Mean Sea Level d) Monthly Sea Level
2. In chain survey the area is divided into
   a) Rectangle b) Circle
   c) Section d) Triangle
3. Surveyors compass gives the
   a) Quadrantal Bearing. b) Whole circle Bearing
   c) Reduced Bearing d) Surveyors Bearing
4. The staff reading taken on a point of known elevation is known as the
   a) FS reading b) IS reading
   c) Parallel reading d) BS reading
5. The presence of unwanted moisture in the structure of a building is known as
   a) Dampness b) Water Table
   c) Potable Water d) Cellular Water
6. Define Contour line.
7. If scale of a map is 1 mm = 15 m, its R.F is
8. What is meant by Dip of a needle?
9. Convert QB to WCB for the angle N 45° W
10. What are the components of RCC.
11. The length of 1 link in a 20 m metric chain is _____.
12. The portion of the building below the ground level is called _____.
13. The instrument used to mark the end of a chain is _____.
14. A mixture of cement, sand and water is known as _____.
15. What is the full form of GIS _____.

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

A) Differentiate between Prismatic compass and Surveyor's compass.
B) Enlist different branches of civil engineering. Explain any one in detail.
C) What is a contour? What are its characteristics?
D) Differentiate between plane surveying and geodetic surveying.

Q.3 A) What is meant by building planning? What are the principles of planning? **(07)**

B) The following staff readings were observed successively with a dumpy level. The instrument is moved by 2rd, 5th readings. **(08)**

1.750, 1.815, 1.730, 1.955, 2.125, 3.950, 0.655, 0.850, 0.970

Enter the readings in record book and calculate RL using H.I. method if the first reading was taken at a BM of 100.00m

OR

B) The following staff readings were observed successively with a dumpy level. The instrument is moved by 2rd, 5th readings. **(08)**

1.750, 1.815, 1.730, 1.955, 2.125, 3.950, 0.655, 0.850, 0.970

Enter the readings in record book and calculate RL using **Rise and Fall method** if the first reading was taken at a BM of 100.00m

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

Line	Fore Bearing	Back Bearing
AB	45° 30′	225° 30′
BC	120° 00′	300° 00′
CD	190° 30′	10° 30′
DA	284° 15′	104° 15′

OR

A) What is foundation? What are the objectives of foundation? How do you broadly classify foundation? **(07)**

B) i) What are the properties of cement? **(08)**

ii) What is dampness? What are the causes of dampness?