

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2018 – 19 Examination

Semester: 1
Subject Code: 03104102
Subject Name: Elements of Civil Engineering

Date: 18/05/2019
Time: 02:00 pm to 04:30 pm
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 - (Fill in the blanks, one word answer, MCQ-not more than Five in case (15) of MCQ) (All are compulsory) (Each of one mark)

1. Hydrographic surveys deal with the mapping of
 (1) large water bodies (2) heavenly bodies (3) mountainous region (4) canal system
2. An ideal vertical curve to join two gradients, is
 (1) circular (2) parabolic (3) elliptical (4) hyperbolic
3. The real image of an object formed by the objective, must lie
 (1) in the plane of cross hairs (2) at the center of the telescope
 (3) at the optical center of the eye-piece (4) anywhere inside the telescope.
4. One of the tacheometric constants is additive, the other constant, is
 (1) subtractive constant (2) multiplying constant (3) dividing constant (4) indicative constant
5. Pick up the method of surveying in which field observations and plotting proceed simultaneously from the following
 (1) chain surveying (2) compass surveying (3) plan table surveying (4) tacheometric surveying.
6. While viewing through a level telescope and moving the eye slightly, a relative movement occurs between the image of the levelling staff and the cross hairs. The instrument is _____
7. The most reliable method of plotting a theodolite traverse, is _____
8. The bearings of the lines AB and BC are $146^{\circ} 30'$ and $68^{\circ} 30'$. The included angle ABC is?
9. The accuracy of measurement in chain surveying, does not depend upon _____
10. The sensitiveness of a level tube decreases is _____.
11. $ABCD$ is a regular parallelogram plot of land whose angle BAD is 60° . If the bearing of the line AB is 30° , the bearing of CD , is ?
12. The main principle of surveying is ?
13. For the construction of highway (or railway) _____.
14. The 'fix' of a plane table station with three known points, is bad if the plane table station lies on?
15. Pantagraph is used ?

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

- A) Disciplines of civil Engineering.
- B) Write down Objectives of a foundation.
- C) Explain the function of each of the following : (a) Chain (b) Mortar (c) Peg
- D) What is Compass Surveying, Types of Compass , Advantages & Disadvantages of Compass Surveying?

- Q.3** A) List the minor instruments used in surveying. (07)
 B) Explain the fundamental principles of surveying. (08)

OR

- B) Enlist types of foundation and explain any three with neat sketch. (08)

- Q.4** A) Draw plan for 1 room and kitchen with verandah. (07)

OR

- A) What is dampness? Write prevention measure of dampness? (07)
 B) Write down types of paint and explain in detail. (08)