

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2022-23 Examination

Semester: 4
Subject Code: 203104283
Subject Name: Surveying

Date: 22-03-2023
Time: 2:00pm To 4:30pm
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 - (All are compulsory) (Each of one mark)**(15)**

1. By means of vertical circle clamp and its corresponding _____ the telescope can be set accurately at any desired position in the vertical plane.
 - a) Tripod head
 - b) Focusing screw
 - c) Levelling head
 - d) Tangent screw
2. Most accurate method of direct measuring is with _____
 - a) Passometer
 - b) Pedometer
 - c) Theodolite
 - d) Chaining
3. What is required to transfer points to the ground, while chaining along the sloping ground?
 - a) Spirit level
 - b) Chain
 - c) Peg
 - d) Plumb bob
4. A series of closely spaced contour lines represents a
 - a) Gentle slope
 - b) Uniform slope
 - c) Plane surface
 - d) Steep slope
5. Ranging is an operation of _____
 - a) Reconnaissance
 - b) Judging the distance
 - c) Determination of slope
 - d) Establishing intermediate points between terminals
6. What is surveying?
7. Enlist types of error.
8. What is levelling?
9. What is Meridian? Enlist types of Meridian.
10. What is transition curve?
11. In angular method of setting a curve _____ is used.
12. _____ is the most precise instrument designed for the measurement of horizontal and vertical angles.
13. Horizontal axis is also called _____
14. U-fork with plumbob is used for _____
15. In prismatic compass, graduations are in WCB system. True or False.

- Q.2** Answer the following questions. (Attempt any three) **(15)**
- A) How the temporary adjustment of a theodolite carried out?
 B) Enlist various equipment used in plane table surveying. Explain any two.
 C) Write short note on different types of error.
 D) Write a short note on GPS.

- Q.3** A) Write definition **(07)**

1) Latitude 2) Departure 3) Swinging 4) Zero circle 5) WCB 6) RB 7) Face left & Face right

- B) The following offsets are taken from a chain line to an irregular boundary towards right side of the chain line. **(08)**

Chainage	0	25	50	75	100	125	150
Offset 'm'	3.6	5.0	6.5	5.5	7.3	6.0	4.0

Calculate area using Simpson's method and trapezoidal method.

OR

- B) Calculate the following WCB to RB with neat sketch. **(08)**

- (1) 35°
 (2) 130°
 (3) 240°
 (4) 290°

- Q.4** A) Write a short note on theodolite. Enlist and explain parts of theodolite. **(07)**

OR

- A) Explain the step by step procedure to measure horizontal angle with reiteration method. **(07)**

- B) write the following **(08)**

(1) The mid ordinates of a water plane are 15m apart and their lengths are 1.9, 6.6, 11, 5, 17, 4, 19.4, 20.8, 18.8, 15.8, 10.6 and 2.6 respectively. Find the area of plane.

(2) What are the method of contouring? Explain any one.