JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY
WAKNAGHAT

T-2 April-2019
4th Semester (Civil Engineering)

Course Code: 10 B11CE412
Course Name: Surveying
Course credit: 4

Max. Marks: 25
Max. Time: 1 hrs & 30 min

Note: All questions are compulsory. Assume suitable data if required.

Q1. How can you use a contour map to get the inter-visibility between two survey stations? Explain the procedure with neat sketch **[1+1+1]**

Q2. Explain the principle of equalizing back sight and foresight distances. **[4]**

Q3. What is three point problem in Plane tabling? Explain the procedure of solving this by tracing paper method with neat sketch. **[4]**

Q4. State the basic principle of Tacheometry. A leveling instrument is setup at Station A and the staff is held vertical at a point B with telescope inclined at an angle of depression 10 degree to the horizontal, the reading on the staff are 2.670, 1.835, and 1.000 m . Calculate the RL of B and its horizontal distance from A. The Height of instrument is 1.424 m and RL is 459.95. **[1+3]**

Q5. Reciprocal levelling was conducted across a wide river to determine the difference in level of points A and B, A situated on one bank of the river and B situated on the other. The following results on the staff held vertically at A and B from level stations 1 and 2, respectively, were obtained. The level station 1 was near to A and station 2 was near to B. The distance AB is 315 m

Level at	Reading on	
	A	B
1	1.485	1.725
2	1.190	1.415

(a) If the reduced level of B is 56.98 m above the datum, what is the reduced level of A? **[1]**
(b) Assuming that the atmospheric conditions remain unchanged during the two sets of the observations, calculate the collimation error in the instrument. **[4]**

Q6. Answer the following questions in short **[5]**
(a) Why the horizontal equivalent is not constant
(b) What is orientation? Why it is done?
(c) In a map two consecutive contours cross each other. What would you comment?
(d) What is the main principle of plane tabling?
(e) How will you differentiate between a depression and summit by studying the nature of contour?