JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2021

B.Tech III Semester

COURSE CODE: 18B11CE312
COURSE NAME: Surveying
COURSE CREDITS: 03

MAX. MARKS: 35

MAX. TIME: 2 HRS

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume suitable data if required. Notation has its usual meaning.

Q1. Answer the following in brief: [5]

a. Differentiate between active sensors and passive sensors
b. What is centring in plane tabling?
c. A line of 10 cm shrinks to 9 cm. Determine the shrinkage factor. Also determine the correct area corresponding to a measured area of 800 m^2.
d. Define the term Magnetic Declination.
e. The length of a line measured with a chain of 50 m was found to be 1000 m. If the chain is 25 cm too short, find the true length of the line.?

Q2. Explain thoroughly various characteristics of counters with neat sketch. [4]

Q3. What is the main principle of plane tabling? Define three point problem. How it is solved by mechanical method. [5]

Q4. The following staff readings were observed successively with a level, the instrument having been moved after fifth reading:

2.28 1.65 1.55 2.90 2.86 1.26 0.60 2.50 meters.

Enter the above readings in a page of a level book and calculate the R L of points if the first reading was taken with a staff held at the bench mark with RL=150 m. [4]

Q5. The chainage of the intersection of two straights having angle of deflection of 50° is 1680.5 m. If the radius of curve is 500 m. Calculate the tangent distance, length of curve, chainage of P C and P T , length of the long chord, degree of curve, apex distance and mid-ordinate. [6]

A tacheometer was set up at an intermediate station C of the line AB and following readings were obtained:

Staff Station	Vertical angle	Staff readings		
A	-6° 20'	0.445	1.675	2.905
B	4° 20'	0.950	1.880	2.810

The instrument was fitted with an anallatic lens and the constant was 100. Find the gradient on the line joining station A and station B. [6]

Q7. **(a)** Explain the concept of atmospheric window in Remote sensing. [1.5]
(b) Explain various process involved in Remote sensing. [3.5]