JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2024

B.Tech-III Semester (CE)

COURSE CODE (CREDITS): 23B11CE317 (3) MAX. MARKS: 35

COURSE NAME: SURVEYING

COURSE INSTRUCTORS: ASHISH KUMAR MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1			
(a)	Differentiate between magnetic bearing and true bearing.	CO1	1
(b)	Why transition curve is required in the highways/Railways?	CO1	1
(c)	Explain the concept of Unit Chord in curves.	CO5	1
(d)	We want to transfer the station (on ground) to Plane Table. Which operation will you use? Explain briefly	CO1	2
Q2 (a)	How will you conduct the leveling operation when BM is above the ground ?	CO3	2
Q2 (b)	During a construction work of a building, a point on the ground was taken as a temporary BM (RL = 100 m). The following notes were recorded. Reading on staff on BM 1.25 m Reading on point P on floor of room 1.05 Reading on inverted staff on bottom of Roof of room (Q) = 1.95 m Find the height of room.	CO3	3
Q3	During a Plane tabling surveying, all field measurement were taken. Later on, next day it is observed that few details are missing and needs to do again plane tabling. Explain the procedure of establishing plane tabling again if three points on the ground are available with their position on the drawing sheet.	CO2	5
Q4	Contour maps have different advantages in Civil Engineering. One of the uses is to determine the location of a route of a highway. Explain the procedure with suitable example.	CO1	5
Q5	A tacheometer fitted with an anallatic lens having a value of $K= 100$ was setup at A. The following readings were taken with the staff held vertically at point B. Calculate the distance AB, and elevation of point B if Height of instrument is 120 m. The reading taken are shown in the table below.	CO4	5

Inst Station	Staff station	Vertical angle (α)	Staff reading (m) (h)
A	B	$10\,^\circ$	1.85, 2.00, 2.15

Q6	The primary source of energy in Remote sensing is either Sun or self-emission of energy from the object on earth. Explain the sensor that utilize this energy in Remote sensing.	CO6	4
Q7	The chainage of the intersection of two straights having angle of deflection of 60° is 1800 m. If the radius of curve is 400 m. Draw the circular curve by the method "offsets from chords produced". Take length of chain to draw chord as 30 m.	CO5	6