

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-III Semester (CSE/IT/ECE/CE/BT/BI)

COURSE CODE (CREDITS): 25B11CE312 (3)

MAX. MARKS: 25

COURSE NAME: Surveying

COURSE INSTRUCTORS: Ashish Kumar

MAX. TIME: 1 Hour 30 Min

Note: (a) All questions are compulsory.

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

(c) Use of scientific calculator is allowed.

Q.No	Question	CO	Marks
Q1	A steel tape 30 m long is standardized at 60°F with a pull of 25 Kg and used for measuring a base line. Find the correction per tape length, if the temperature at the time of measurement was 75°F and the pull executed was 40 Kg. Unit weight of steel is 7.86 g/cc, wt of tape is 0.8 Kg and $E = 2.11 \times 10^6$ Kg/cm ² . Coefficient of thermal expansion is 6×10^{-6} per °F.	2	4
Q2 (a)	Differentiate between Back Sight, Fore Sight and Intermediate Sight in Leveling operation.	3	2
Q2 (b)	The following staff reading was taken on a undulated ground with a 4 m telescopic staff. The level was shifted after 3 rd and 7 th reading. Enter the reading in the level book and Calculate the RL of each points. Consider first reading was taken at BM = 100 m. Apply all checks needed in the calculations. 1.250, 2.500, 2.225, 3.265, 1.550, 2.675, 2.345, 3.050, 0.550	3	4
Q3	Explain the Principle of plane tabling. If an object is inaccessible and you want to do the plane tabling operation, which method you will prefer? Explain the procedure with neat sketch.	4	4
Q4	How linear measurement can be taken in the field using electronic methods? Explain the principle and any one Instrument.	4	3
Q5	During a leveling operation between two points A and B, a high wall obstructs the line of sight between them. 1. Explain the procedure of leveling past a high wall, mentioning all essential steps and observations required. 2. Draw a neat labeled sketch showing the instrument positions, staff positions, and lines of sight. 3. State how the Reduced Level (RL) of point B is determined when the RL of point A is known.	3	4

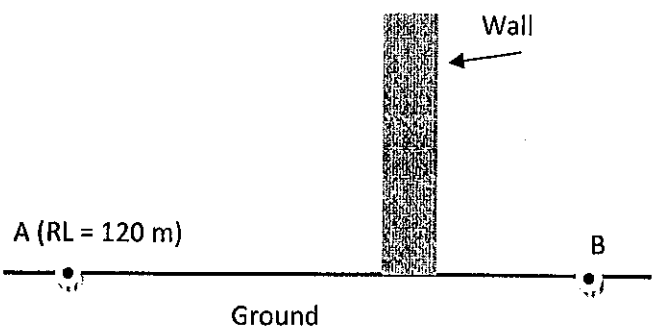
	 Figure 1		
Q6	Draw the section along Line AB as shown in contour map (page 3). What is the advantage of drawing the cross-section in a contour map? Submit the page 3 along with answer sheet with solution.	3	4

Figure 2: Contour map

