JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2024

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

COURSE CODE (CREDITS): 23B11CE317 (3)

MAX. MARKS: 25

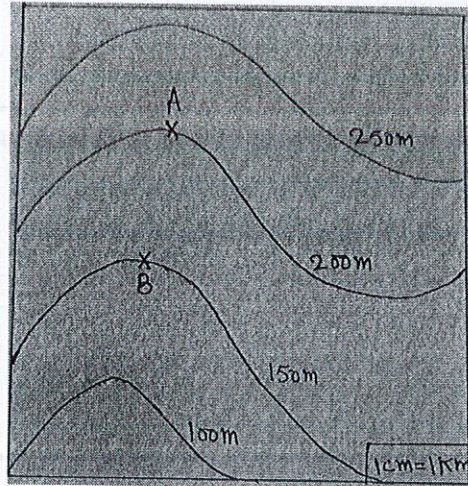COURSE NAME: Surveying

COURSE INSTRUCTORS: Ashish Kumar

MAX. TIME: 1 Hour 30 Minutes

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	Answer the following in brief.		
(a)	Briefly differentiate between Prismatic and surveyor compass. For what purposes these are used?	CO-1	2
(b)	What do mean by RF in scales	CO-2	1
(c)	You are given the task of conducting surveying in a crowed area. How will you carry out surveying operation? Which method will you adopt?	CO-1	1
(d)	We want to establish a Bench Mark (BM) in new construction site. Which type of levelling operation will you perform for set of BM. Explain the procedure.	CO-3	1
Q2	The following consecutive readings were taken with a level and a 4 m levelling staff on a continuously sloping ground at common interval of 20 m. 1.55 (on R), 1.54, 2.45, 3.15, 3.65, 0.45, 1.25, 2.55, 2.85, 3.45, 0.85, 1.15, 1.85, 2.75, 3.25, 3.55, 3.90 (on S) Make entries in a level book and apply the usual checks. RL of P was 250 m. Determine the gradient of RS.	CO-3	5
Q3			
(a)	Define the sensitiveness of the level tube.	CO-3	1
(b)	When the bubble is at the centre, the reading on the staff, 200 m from the level, is 2.550 m. The bubble is then deviated by five divisions and reading on the staff is 2.5 m. If the length of the one division is 2 mm, calculate the radius of curvature off the bubble tube and the angular value of one division of the bubble.	CO-3	2
Q4	Explain the Principle of plane tabling. Suppose during the plane tabling operation you have to shift your station to another place. Name and explain the different operation to establish new station.	CO-4	4
Q5			
(a)	What is contour interval in a contour map? Why is required to keep it Constant	CO-4	1

(b)	Below down is a contour map having contour interval equal to 50 m. The scale of the contour map is 1cm=1 km. Two points as A and B are marked at two contour lines. Compute the slope of the ground between these two points.	CO-4	3
Q6	Two points R and Q are 2000 m apart across a wide river. The following reciprocal levels are taken with one level: Level at Reading on Q R R 2.515 1.205 Q 1.750 0.405 Calculate the true difference of the level between A and B and error due the refraction and curvature. Assume there is no collimation error in instrument. If Reduced level of point A is 320m, calculate the RL of point B. Apply the correction in staff reading also if required.	CO-2	4