

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-VII Semester

COURSE CODE (CREDITS):22B1WCE731 (3)

MAX. MARKS: 25

COURSE NAME: REMOTE SENSING AND GEOMATICS

COURSE INSTRUCTORS: Akash Bhardwaj

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) Scientific calculators allowed.

Q.No	Question	CO	Marks
Q1 (a)	A block of aerial photography is taken with 60% overlap along the flightline and 25% side overlap between flightlines. Explain why these overlaps are necessary and what would happen if they are reduced with figure.	CO 2	4
Q1 (b)	Define fiducial marks with neat figure. How are they used to locate the principal point of a photograph? What is a conjugate principal point (CPP) and how is it determined? Explain with figures.	CO 2	4
Q2 (a)	What is a Standard False Color Composite? Explain how and why in a standard FCC dense vegetation appears in red.	CO 3	3
Q2 (b)	A Landsat image shows alternating bright and dark stripes across the scene. Identify the error and suggest the all-correction methods possible.	CO 3	3
Q2 (c)	Write the causes of radiometric errors in remote sensing.	CO 3	2
Q3 (a)	For a pixel with DN=1200, the sun elevation angle is 45° . Compute the sun-angle corrected digital number.	CO 3	1
Q3 (b)	For day number $d=50$, a pixel has DN=950. Apply Earth-Sun distance correction and calculate the new DN'.	CO 3	2
Q4 (a)	Explain roll, pitch, and yaw error with neat figure.	CO 2	3
Q4 (b)	A satellite's push-broom scanner acquires data one line at a time. If the satellite experiences a constant roll angle during acquisition, describe the resulting geometric distortion in the image with figure. Would a point on the ground be displaced parallel to the flight direction, perpendicular to it, or in another direction?	CO 2	3