

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: M Tech
BRANCH: REMOTE SENSING

SEMESTER : I
SESSION : MO/2025

SUBJECT: RS511 AERIAL AND SATELLITE PHOTOGRAMMETRY & IMAGE INTERPRETATION

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

		CO	BL
Q.1(a)	Give LULC level -2 classification and their image characteristic	[5] [CO1]	[BL-3]
Q.1(b)	What is the fundamental difference in plateau region topography and normal topography? Write image characteristics of pediment and piedmont.	[5] [CO1]	[BL-3]
Q.2(a)	Derive an expression for relief displacement.	[5] [CO2]	[BL-5]
Q.2(b)	In the Aerial Photographs tall buildings appear slanting away from the centre. Why? Can you please explain What will happen to this slanting if the flying height increases. What will happen if you move the building (of the same height) away from the Centre of Photo. Explain with the help of Diagram	[5] [CO2]	[BL-4]
Q.3(a)	Explain how stereo parallax is used to determine elevations in photogrammetry.	[5] [CO3]	[BL-5]
Q.3(b)	Calculate the number of aerial photographs taken by an aerial craft covering an area of 10km by 20km on a scale of 1:5000 and having end lap of 60% and side lap of 20%.the format size is 23cm x 23cm.	[5] [CO3]	[BL-5]
Q.4(a)	A drone flies at 120m altitude with a camera sensor of 16mm focal length and pixel size 4 μ m. What is the Ground Sampling Distance (GSD) in cm/pixel? (Hint: GSD is the distance between two pixels, in other way pixel size on ground)	[5] [CO4]	[BL-5]
Q.4(b)	What is Ortho-Rectification? Why is it necessary to ortho-rectify aerial photographs.	[5] [CO4]	[BL-4]
Q.5(a)	What is Aero-triangulation, how is it carried out and give its application?	[5] [CO5]	[BL-4]
Q.5(b)	Explain the role of UAV in terrain mapping.	[5] [CO5]	[BL-4]

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