

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

**CLASS: MSc.**

**BRANCH: GEO-INFORMATICS**

**SEMESTER : I**

**SESSION : MO/2024**

**SUBJECT: GI504R1 ADVANCED IMAGE ACQUISITION AND INTERPRETATION FOR ENVIRONMENTAL MAPPING**

**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.

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Q.1(a)	Discuss the difference between igneous, sedimentary and metamorphic rocks with examples.	[5]	1 2
Q.1(b)	Discuss any three landforms.	[5]	1 2
Q.2(a)	Describe the different elements of image interpretation.	[5]	2 3
Q.2(b)	Explain the concept of 'Convergence of Evidence' in visual image interpretation with one example.	[5]	2 4
Q.3(a)	Name two online Indian satellite data portal. Describe one of the Indian Satellite data portals in details about its utility and advantage.	[5]	3 1, 3
Q.3(b)	Name two USA online satellite data portal. Explain the significance of ESA's Sentinel data in remote sensing applications.	[5]	3 1, 5
Q.4(a)	What is the full form of LIDAR? What are the necessary components of LIDAR? What is the difference of IMU and INS?	[5]	4 1
Q.4(b)	Write down the main differences of LIDAR vs RADAR. What is the name of the popular LIDAR data format? What is the full form of UAV?	[5]	3 3
Q.5(a)	What is meant by Advanced Sensors? Explain.	[5]	5 2
Q.5(b)	Write the importance of different sensors in different segments like agriculture, defense etc.	[5]	5 5

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