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

CLASS:.   M.SC   SEMESTER : I
BRANCH: MGI   SESSION : MO/2023

SUBJECT: GI501 PRINCIPLES OF REMOTE SENSING

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)	What is the atmospheric window? How does it impact Remote Sensing?	[5]	[CO1]	[BL1]
Q.1(b)	It is required to determine the chlorophyll type and content of vegetation present in an urban area every month. Evaluate the roles of different types of resolutions in performing this task.	[5]	[CO1]	[BL2]
Q.2(a)	Differentiate Geo Synchronous and Sun Synchronous Satellites with examples.	[2]	[CO2]	[BL4]
Q.2(b)	What is satellite? Name one natural and one artificial satellite.	[3]	[CO2]	[BL1]
Q.2(c)	Define and distinguish between active and passive remote sensing sensors. Provide examples of each type and explain their operational principles.	[5]	[CO2]	[BL3]
Q.3(a)	Define BIL, BSQ, and BIP. Compare details between these 3 data storage schemes with a diagram	[5]	[CO3]	[BL5]
Q.3(b)	What do you mean by Ground Segment of any satellite mission? Name ISRO center responsible for telemetry and tracking and where is it located?	[5]	[CO3]	[BL1]
Q.4(a)	Define Thermal Inertia. Whose thermal inertia is more in between water and ice	[5]	[CO4]	[BL4]
Q.4(b)	What is the wavelength range of microwave satellite? Explain advantages of Microwave remote sensing over optical remote sensing.	[5]	[CO4]	[BL4]
Q.5(a)	Explain the relevance of ground-truthing in the remote sensing-based application. Name any two equipments used for ground truthing.	[5]	[CO5]	[BL2]
Q.5(b)	What do you understand by spectral signature? Draw spectral response curve for vegetation, soil and water.	[5]	[CO5]	[BL3]

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