BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION MO2022)

CLASS: BTECH **SEMESTER: IV**

BRANCH: CEE/BIO-TECH/ECE/EEE/CHEMICAL/MECH/PIE/IT **SESSION: SP-2023**

SUBJECT: GI501 PRINCIPLES OF REMOTE SENSING

TIME: 03 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and a total of 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates**

			CO	BL
Q.1(a)	Discuss the characteristic of the electromagnetic Spectrum	[3]	2	2
Q.1(b)	Write down a short note on Atmospheric Window.	[3]	3	2
Q.1(c)	What are the different types of resolutions associated with any satellite image?	[4]	4	3
Q.2(a)	What is satellite? Name one natural and one artificial satellite.	[2]	2	1
Q.2(b)	What is the difference between Geo Synchronous and Geo Stationary Satellites? In between geosynchronous and sun-synchronous, whose orbit is closer to Earth	[3]	2	2
Q.2(c)	Explain in detail the mechanism of push broom and whisk broom sensors with the illustration.	[5]	4	3
Q.3(a)	Name the ISRO centers responsible for telemetry, tracking & command (TTC) and distribution of satellite images respectively.	[2]	3	2
Q.3(b)	Describe the BIL storage scheme in detail. Give an example of a satellite image which is stored in BIL	[3]	3	2
Q.3(c)	Name different pre-processing techniques applied on any satellite images	[5]	3	2
Q.4(a)	Define Specific heat and Thermal Inertia. Whose thermal inertia is more in between water and steal	[3]	1	1
Q.4(b)	Why is Microwave remote sensing advantageous in the rainy season?	[3]	4	5
Q.4(c)	What are the advantages of microwave remote sensing and write down its range of wavelength.	[4]	3	4
Q.5(a)	Explain the relevance of ground-truthing in the remote sensing-based application. Name any equipment used for ground truthing.	[3]	5	3
Q.5(b)	How is the temporal resolution of satellite images important in planning field surveys for ground truth collection?	[3]	5	2
Q.5(c)	Discuss any two Remote Sensing Applications in the field of water resources.	[4]	2,5	2

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