

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

CLASS: MSc / PRE-PHD
BRANCH: GEOINFORMATICS

SEMESTER : I
SESSION : MO/2022

SUBJECT: GI501 PRINCIPLES OF REMOTE SENSING

TIME: 3:00 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) Explain the component of remote sensing from source to end user. [CO1-BL2] [3]
Q.1(b) Discuss the characteristics of the electromagnetic spectrum. [CO2-BL2] [3]
Q.1(c) What is the atmospheric window? How its impact Remote Sensing? [CO3-BL4] [4]
- Q.2(a) What is satellite? Name one natural and one artificial satellite. [CO2-BL1] [2]
Q.2(b) Differentiate Geo Synchronous and Sun Synchronous Satellites with examples. [CO2-BL2] [3]
Q.2(c) Explain in detail the mechanism of push broom and whisk broom sensors with the illustration. [CO4-BL5] [5]
- Q.3(a) Explain the importance of different data storage. [CO3, BL2] [2]
Q.3(b) What is the requirement for doing atmospheric correction for any satellite image? [CO2, CO5-BL2] [3]
Q.3(c) Define BIL, BSQ, and BIP. Compare details between these 3 data storage schemes with a diagram [CO3, CO5-BL3] [5]
- Q.4(a) Define Specific heat and Thermal Inertia. Whose thermal inertia is more in between water and steel? [CO1-BL1] [3]
Q.4(b) Define and explain Conduction, convection, and radiation. [CO3-BL3] [3]
Q.4(c) What are the advantages of Microwave Remote Sensing? [CO4-BL5] [4]
- Q.5(a) Explain the relevance of ground-truthing in the remote sensing-based application. [CO5-BL3] [2]
Q.5(b) Write down the different applications of remote sensing in the field of Agriculture or earth science. [CO5-BL4] [3]
Q.5(c) What do you understand by spectral signature? Draw spectral response curve for vegetation and soil. [CO2, CO5-BL3] [5]

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