

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- APRIL-2023

COURSE CODE(CREDITS):19B1WEC837(3)

MAX. MARKS: 25

COURSE NAME:Remote Sensing and Satellite Image Processing

COURSE INSTRUCTORS: Lt. Pragya Gupta

MAX. TIME: 1 Hr 30 Min

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. (a) Most individuals are quick to appreciate the advantages of fine resolution. However, there may well be disadvantages to fine-resolution data relative to data of coarser spatial, spectral, and radiometric detail. Suggest what some of these disadvantages might be. [3]CO3

(b) A vertical aerial photograph shows two features to be separated by 4.5 in. A map at 1:24,000 shows the same two features to be separated by 9.3 in. Calculate the scale of the photograph. [2]CO3

Q2. What is the difference between along-track and across-track multispectral scanning systems? What is the working principle of an along-track scanning system? Give the name of at least one satellite that has an across-track scanning system. [5] CO1

Q3. (a) Write a note on IRS Satellite Systems and its applications. [2]CO2

(b) Define the repeat cycle and orbit period of a satellite. What is the repeat cycle and orbit period of Landsat satellites? [3]CO2

Q4. Write a note on the following-

- a. Radiometric Resolution
 - b. Temporal Resolution
 - c. Off-nadir viewing capability of satellite
- [4.5] CO2

Q5. Why more frequent images are available for the polar regions as compared to equatorial regions? Explain with a proper diagram. How can more frequent imaging of any particular area of interest be achieved? [2.5]CO3

Q6. Define Albedo. Write down the Albedo value of the following earth surface feature-

- a. Water
 - b. Dark Soil
 - c. Forest
 - d. Concrete
- [3]CO1