

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2&3 EXAMINATIONS- 2026

B.Tech-8th Semester (ECE)

COURSE CODE (CREDITS): 19B1WEC837 (3)

MAX MARKS: 60

COURSE NAME: Remote Sensing and Satellite Image Processing

COURSE INSTRUCTOR: Lt. (Dr.) Pragya Gupta

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is not allowed

Q.No	Question	CO	Marks
Q1	(a) Describe the spectral reflectance characteristics of healthy vegetation. (b) Explain how spectral reflectance curves help in distinguishing vegetation, soil, and water.	1	5+5
Q2	(a) Discuss spectral resolution and its importance in remote sensing. (b) Differentiate between multispectral and hyperspectral sensing.	3	5+5
Q3	(a) Compare whiskbroom and pushbroom scanning techniques with neat diagrams. (b) Describe methods used to correct geometric distortions.	1	5+5
Q4	(a) Discuss the role of atmospheric correction in remote sensing image analysis. Explain the effect of atmospheric scattering and absorption on sensor-recorded radiance. (b) Describe any one method used for atmospheric correction of remote sensing images. Discuss its advantages and practical limitations.	2	5+5
Q5	(a) Discuss different types of Vegetation Indices. (b) What is the requirement to transform the images Explain how arithmetic operations are used to transform the images. (c)	4	5+5
Q6	(a) Explain the process of geometric rectification in remote sensing. (b) Define Ground Control Points (GCPs). Explain any four important properties required while selecting GCPs for geometric rectification.	2	5+5