

Course Name: Advance Remote Sensing

Course Code: GIS-505/ DGIS-505

Unit Schedule

Block 1: Overview of satellite images

Unit 1 - Characteristics of images obtained from different sensors

- 1.1 Objectives
- 1.2 Introduction
- 1.3 Characteristics of images obtained from different sensors
- 1.4 Summary
- 1.5 Glossary
- 1.6 Answer to check your progress
- 1.7 References
- 1.8 Terminal questions

Unit 2- Geometric, Radiometric and Atmospheric Corrections

- 2.1 Objectives
- 2.2 Introduction
- 2.3 Geometric, Radiometric and Atmospheric Corrections
- 2.4 Summary
- 2.5 Glossary
- 2.6 Answer to check your progress
- 2.7 References
- 2.8 Terminal questions

Unit 3- Thermal Infra-Red images

- 3.1 Objectives
- 3.2 Introduction
- 3.3 Thermal Infra-Red images
- 3.4 Summary
- 3.5 Glossary
- 3.6 Answer to check your progress
- 3.7 References
- 3.8 Terminal questions

Block 2: Hyper spectral

Unit 4: Introduction to Hyperspectral Remote Sensing

- 4.1 Objectives
- 4.2 Introduction
- 4.3 Introduction to Hyperspectral Remote Sensing
- 4.4 Summary
- 4.5 Glossary
- 4.6 Answer to check your progress
- 4.7 References
- 4.8 Terminal questions

Unit 5: Characteristics of Hyperspectral data, Spectral Image Library

- 5.1 Objectives
- 5.2 Introduction
- 5.3 Characteristics of Hyperspectral data, Spectral Image Library
- 5.4 Summary
- 5.5 Glossary
- 5.6 Answer to check your progress
- 5.7 References
- 5.8 Terminal questions

Unit 6: Hyperspectral Data Interpretation

- 6.1 Objectives
- 6.2 Introduction
- 6.3 Hyperspectral Data Interpretation
- 6.4 Summary
- 6.5 Glossary
- 6.6 Answer to check your progress
- 6.7 References
- 6.8 Terminal questions

Block 3: Microwave

Unit 7: Concept Definition, Microwave frequency ranges and Factors affecting Microwave measurements

- 7.1 Objectives
- 7.2 Introduction
- 7.3 Concept Definition, Microwave frequency ranges and Factors affecting Microwave measurements

- 7.4 Summary
- 7.5 Glossary
- 7.6 Answer to check your progress
- 7.7 References
- 7.8 Terminal questions

Unit 8: The RADAR principles, RADAR Wavebands, Side looking Airborne RADAR (SLAR) systems & Synthetic Aperture Radar (SAR), Real Aperture Radar (RAR)

- 8.1 Objectives
- 8.2 Introduction
- 8.3 The RADAR principles, RADAR Wavebands, Side looking Airborne RADAR (SLAR) systems & Synthetic Aperture Radar (SAR), Real Aperture Radar (RAR)
- 8.4 Summary
- 8.5 Glossary
- 8.6 Answer to check your progress
- 8.7 References
- 8.8 Terminal questions

Unit 9: Interaction between Microwaves and Earth's surface

- 9.1 Objectives
- 9.2 Introduction
- 9.3 Interaction between Microwaves and Earth's surface
- 9.4 Summary
- 9.5 Glossary
- 9.6 Answer to check your progress
- 9.7 References
- 9.8 Terminal questions

Unit 10: Geometrical characteristics of microwave image

- 10.1 Objectives
- 10.2 Introduction
- 10.3 Geometrical characteristics of microwave image
- 10.4 Summary
- 10.5 Glossary
- 10.6 Answer to check your progress
- 10.7 References
- 10.8 Terminal questions

Unit 11: Interpreting SAR images

- 11.1 Objectives
- 11.2 Introduction
- 11.3 Interpreting SAR images
- 11.4 Summary
- 11.5 Glossary
- 11.6 Answer to check your progress
- 11.7 References
- 11.8 Terminal questions

Block 4: Digital Image Processing

Unit 12: Introduction to digital Image processing

- 12.1 Objectives
- 12.2 Introduction
- 12.3 Introduction to digital Image processing
- 12.4 Summary
- 12.5 Glossary
- 12.6 Answer to check your progress
- 12.7 References
- 12.8 Terminal questions

Unit 13: Preprocessing, Image registration & Image Enhancement Techniques

- 13.1 Objectives
- 13.2 Introduction
- 13.3 Preprocessing, Image registration & Image Enhancement Techniques
- 13.4 Summary
- 13.5 Glossary
- 13.6 Answer to check your progress
- 13.7 References
- 13.8 Terminal questions

Unit 14: Spatial Filtering Techniques & Image transformation

- 14.1 Objectives
- 14.2 Introduction
- 14.3 Spatial Filtering Techniques & Image transformation
- 14.4 Summary
- 14.5 Glossary
- 14.6 Answer to check your progress
- 14.7 References

14.8 Terminal questions

Unit 15: Image classification

15.1 Objectives

15.2 Introduction

15.3 Image classification

15.4 Summary

15.5 Glossary

15.6 Answer to check your progress

15.7 References

15.8 Terminal questions