



SHRI ANGALAMMAN COLLEGE OF ENGINEERING AND TECHNOLOGY

(An ISO 9001:2008 Certified Institution)
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DEPARTMENT OF CIVIL ENGINEERING

CE-1304 FUNDAMENTALS OF REMOTE SENSING AND GIS

UNIT – I PART – A

1. Define remote sensing.
2. What are the essential components of a remote sensing system? Interact.
3. Differentiate active and passive remote sensing system.
4. What is EMR?
5. What are the different platforms used in remote sensing?
6. What do you understand by electromagnetic spectrum?
7. What is Wien's displacement law?
8. What is Stephen Boltzmann's law?
9. What are the advantages of remotely sensed data?
10. What are the disadvantages of remotely sensed data?
11. What is the interaction that takes place on earth's surface?
12. What is reflectance?
13. What do you understand by scattering of EMR?
14. What do you understand by spectral signature?

PART – B

15. Explain with neat sketch the components of the remote sensing system.
16. Explain the spectral reflective characteristics of water, vegetation and soil.
17. Explain how the interactions between the matter and the electromagnetic radiation are executed.
18. Explain spectral signature concepts.
19. Explain the electromagnetic remote sensing process
20. Describe the atmospheric effects on spectral response patterns.
21. Explain the energy interactions with earth's surface materials.
22. Explain spectral wave bands.
23. Explain wave theory.
24. Explain particle theory.

UNIT – II
PART – A

1. What are the types of platforms?
2. What are air borne platforms?
3. What are space borne platforms?
4. What are the types of sensor systems?
5. What are the types of multispectral sensing system?
6. What are sensors?
7. How are sensors classified based on their functions?
8. What are the different types of resolutions used as parameters of sensor?
9. List out the meteorological satellite.
10. List out earth resources satellite.
11. What are the types of data products?
12. Define passive sensors.
13. Define active sensors.
14. List out the microwave sensors.
15. What do you mean by sun synchronous?

PART – B

16. Explain the types of imaging sensor systems.
17. Explain the types of earth resources satellite.
18. Explain passive and active sensors.
19. Explain the Meteorological satellites.
20. Write notes on the satellite microwave sensors.
21. Explain the types of platforms.
22. Explain the types of sensors.
23. Explain the types of data products.
24. Explain in detail the resolution concepts.
25. Explain microwave sensors.

UNIT – III
PART – A

1. What are the Types of image interpretation?
2. What are the basic elements of image interpretation?
3. What is digital image processing?

4. What is preprocessing?
5. What are the types of image enhancement techniques?
6. What is multispectral image classification?
7. Define Visual interpretation keys.
8. What is image interpretation strategy?
9. What are the types of pictorial data products?
10. List any four details generally annotated in the satellite imagery.
11. What are fundamental picture elements?
12. Define size
13. Define shape
14. Define texture
15. Define tone

PART – B

16. Explain the Types of image interpretation.
17. Explain the basic elements of image interpretation?
18. Explain the types of pictorial data products.
19. Explain the fundamental picture elements.
20. Explain the types of image enhancement techniques?
21. Write notes on digital data processing.
22. Explain the multispectral image classification.
23. Explain the radiometric correction methods.
24. Explain the atmospheric correction methods.
25. Explain the unsupervised classification.

UNIT – IV PART – A

1. Define map.
2. Define map projection.
3. List out the type of maps.
4. Define GIS.
5. List out the component of GIS.
6. What are the Standard GIS softwares?
7. What are the data types?
8. How can projection be classified?
9. What is DBMS?

10. What are the four commonly referred levels of measurement?
11. Define attribute value.
12. Give the workflow process of GIS.
13. Functional elements of GIS.
14. What for we require GIS.

PART – B

15. Explain the components of GIS with a neat sketch.
16. Explain the scale of measurement with an example.
17. Write notes on the contributing disciplines for GIS
18. Explain projection
19. Explain the hardware components of GIS with neat sketch.
20. Explain the data types in GIS
21. Differentiate GIS from information system and CAD system.
22. Explain overlaying capabilities.
23. Explain the data input devices used in GIS.
24. Explain the data output devices used in GIS.

UNIT – V PART – A

1. What are the types of data models?
2. List out the advantages of raster data model.
3. What do you mean by data compression?
4. Define buffering techniques.
5. List out the basic elements of GIS modeling.
6. What is LIS?
7. What is scanning?
8. What is digitization?
9. What is data medium conversion?
10. Define Raster.
11. Define vector.
12. What is skeletonising?
13. What is reclassification?
14. What is topographical overlay?
15. What is TIN?

PART – B

16. Explain the types of data models.
17. Explain data structure conversion.
18. Explain data medium conversion.
19. Explain scan digitizing systems.
20. Explain spatial measurement methods.
21. Explain the buffering techniques.
22. Write notes on Overlay analysis.
23. Explain DTM generation.
24. Explain modeling surfaces.
25. Write notes on GIS output.

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