

Code No: RT41015

R13**Set No. 1**

IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018

REMOTE SENSING AND GIS APPLICATIONS**(Civil Engineering)****Time: 3 hours****Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B************PART-A (22 Marks)**

1. a) Write a short note on In situ data and Electromagnetic Radiation. [4]
- b) What are the advantages of human image interpretation and digital image processing? [4]
- c) List out the key components of Geographic Information system. [3]
- d) Write a short note on Spatial data analysis. [4]
- e) Write a short note on land use and land cover. [4]
- f) How remote sensing and GIS helps in modern life. Explain in brief. [3]

PART-B (3x16 = 48 Marks)

2. a) What do you understand by remote sensing? Briefly explain remote sensing process. [8]
- b) Explain wave model of electromagnetic radiation. What is electromagnetic spectrum? [8]
3. a) Explain the following elements of visual image interpretation:
(i) Location (ii) Size (iii) Shape and (iv) Shadow. [8]
- b) Explain the typical entire process of digital image processing. [8]
4. a) Define GIS. Describe the key components of GIS. [8]
- b) Explain the importance and applications of GIS. [8]
5. What do you mean by Vector overlay? Explain Point-in-polygon overlay, Line-on-polygon overlay, Polygon-on-polygon overlay. [16]
6. Explain the remote sensing application in land use and land cover studies. [16]
7. Explain the importance and application of remote sensing in ground water studies. [16]

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R13**Set No. 2**

IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018

REMOTE SENSING AND GIS APPLICATIONS**(Civil Engineering)****Time: 3 hours****Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B*

PART-A (22 Marks)

1. a) Discuss in brief active remote sensing and passive remote sensing. [4]
- b) Write a short note on texture and pattern associated with interpretation elements. [4]
- c) What do you mean by Geoinformatics? [3]
- d) What do you mean by Containment and Adjacency? [4]
- e) List the applications of remote sensing and GIS in hydrological applications. [4]
- f) What do you mean by Burn mapping? [3]

PART-B (3x16 = 48 Marks)

2. a) Explain the following terms related to interaction with atmosphere (i) Absorption (ii) Scattering (iii) Rayleigh Scattering (iv) Mie Scattering. [8]
- b) What is resolution of a sensor? Describe various types of sensors used in remote sensing. [8]
3. a) Explain the tone, colour, texture and pattern relating to elements of visual interpretations. [8]
- b) Explain image enhancement, image magnification and image reduction. [8]
4. What do you understand by spatial data and how are they integrated to make a GIS? [16]
5. Explain the concept of network analysis? Explain network tracing, network routing and network allocation. [16]
6. Explain the importance of remote sensing data for geomorphological application. [16]
7. Explain the application of remote sensing in flood zone mapping. [16]

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R13**Set No. 3**

IV B.Tech I Semester Regular/Supplementary Examinations, Oct/Nov - 2018

REMOTE SENSING AND GIS APPLICATIONS

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B*

PART-A (22 Marks)

1. a) Discuss in brief nominal spectral resolution. [3]
- b) Write a short note on Site, shape and size adjectives that are associated with interpretation elements. [4]
- c) What do you mean by spatial entity and topology? [4]
- d) Write a short note on query b pixel value and attribute. [4]
- e) Write a short note on applications of GIS in land use changes. [4]
- f) Write a short note on mapping applications of remote sensing. [3]

PART-B (3x16 = 48 Marks)

2. a) Explain the terms (i) Raman Scattering (ii) Non-selective scattering (iii) Refraction (iv) Reflection. [8]
- b) Explain in detail about the airborne remote sensing and space borne remote sensing. [8]
3. a) Explain Height, depth, site, situation and association relating to elements of visual interpretation. [8]
- b) What are the differences between supervised and unsupervised classification? [8]
4. What are raster data models and vector data models? Write the basic differences between raster and vector data models. [16]
5. Explain arithmetic operations, logical operations and conditional expression of spatial data analysis. [16]
6. Explain the remote sensing studies in geological application. [16]
7. Explain the application of remote sensing in watershed management studies. [16]

Set No. 4

Max. Marks: 70

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