

Code No: RT41015

**R13**

**Set No. 1**

**IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017**  
**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*

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**PART-A (22 Marks)**

1. a) List the features of SPOT. [3]
- b) Write a short note on Unsupervised Classification. [4]
- c) What you understand by GIS? [3]
- d) Write a short note on Edge Matching. [4]
- e) List few Urban applications of GIS. [4]
- f) Write the importance of RS & GIS in Flood Monitoring. [4]

**PART-B (3x16 = 48 Marks)**

2. a) Explain the different divisions of electromagnetic spectrum with reference to wavelengths. [8]
- b) Discuss the various digital image data formats. [8]
3. a) Discuss the various elements of Visual Interpretation techniques. [8]
- b) Discuss the various image enhancement techniques. [8]
4. a) Discuss in brief various applications of GIS in civil engineering. [8]
- b) Discuss the various components of GIS in detail. [8]
5. a) Discuss the concept of Network Analysis with suitable examples. [8]
- b) Discuss the various raster overlay operations. [8]
6. Discuss the role and advantages of Remote Sensing and GIS in Land Use and Land Cover Mapping. [16]
7. Discuss various applications of Remote Sensing and GIS in Watershed Management. [16]



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**Set No. 2**

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**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*

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**PART-A (22 Marks)**

1. a) Define Remote Sensing. [3]
- b) List the various elements of Visual Interpretation. [4]
- c) Differentiate between spatial and non spatial data. [4]
- d) Write a short note on Logical operators used in GIS. [3]
- e) Define Land Use and Land Cover. [4]
- f) How Remote sensing and GIS can be used in identifying ground water potential zones. [4]

**PART-B (3x16 = 48 Marks)**

2. a) Explain in detail the spectral signatures of vegetation and soil. [8]
- b) State the concept of resolution? Explain the spatial and radiometric resolutions in detail. [8]
3. a) Differentiate between Supervised and Unsupervised Classification techniques. [8]
- b) Discuss various image enhancement techniques. [8]
4. a) Explain in detail the significance of Four M's of GIS with the help of a schematic representation. [8]
- b) Discuss the various raster data models used in GIS. [8]
5. a) Discuss the various Vector Overlay operations. [8]
- b) Explain how GIS is useful in determining Optimum route between two locations. [8]
6. a) Describe the applications of Remote Sensing and GIS in agriculture. [8]
- b) What is the role of Remote Sensing and GIS in geology? [8]
7. Discuss the role of Remote Sensing and GIS in continuous monitoring of Floods with a case study. [16]



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**Set No. 3**

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**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*

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**PART-A (22 Marks)**

1. a) Define Spatial resolution. [3]
- b) Explain False Colour Composite. [4]
- c) Discuss the advantages of GIS. [4]
- d) Explain the concept of buffering in GIS. [4]
- e) List few RS & GIS applications in agricultural sector. [4]
- f) Explain the role of remote sensing in identifying artificial recharge locations. [3]

**PART-B (3x16 = 48 Marks)**

2. a) Explain in the Remote Sensing components. [8]
- b) Explain different types of platforms. [8]
3. a) Write about multi spectral image classification. [8]
- b) Explain in detail about the digital image processing. [8]
4. Discuss various types of Map Projections used in GIS. [16]
5. a) Discuss the various types of data representation in GIS with suitable examples. [8]
- b) Discuss the errors in GIS. [8]
6. a) Discuss the use of Remote Sensing and GIS in forestry applications. [8]
- b) Discuss the use of Remote Sensing and GIS in Geomorphology. [8]
7. Explain the role of Remote Sensing and GIS in water resources applications in today's scenario. [16]



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**Set No. 4**

**IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017**  
**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*

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**PART-A (22 Marks)**

1. a) List out the latest remote sensing satellites launched by India. [4]
- b) Differentiate between Supervised and Unsupervised Classification. [4]
- c) List out the possible errors in GIS. [4]
- d) Write a short note on Conditional expressions. [4]
- e) Explain how GIS can be used in reducing road accidents. [3]
- f) List out the satellites which can be used for Flood Monitoring. [3]

**PART-B (3x16 = 48 Marks)**

2. Explain in detail about different types of sensors based on orbit, energy source and data capture. [16]
3. a) Explain the following Image Enhancement Techniques  
(i) Image Reduction & Magnification [8]  
(ii) Contrast Enhancement [8]
- b) What are the different types of data products? [8]
4. Explain the role of importance of GIS in civil engineering point of view. [16]
5. a) Differentiate between Raster and Vector Overlay Operations. [8]
- b) What is data compression? Discuss any two methods. [8]
6. Discuss the various Urban applications of Remote Sensing and GIS. [16]
7. Explain how GIS and Remote Sensing can be used for identifying the sites for artificial recharge structures. [16]

