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
*****

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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Code No: **RT41015**   **R13**   **Set No. 2**

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
*****

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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Code No: **RT41015** | **R13** | **Set No. 3**

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
*****

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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Code No: **RT41015**   # R13   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
*****

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
      (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]