Code No: **RT41015** **R13** **Set No. 1**

IV B.Tech I Semester Supplementary Examinations, February - 2019

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) What are the ideal atmospheric conditions for remote sensing? [4]
   b) Define convolution filtering. Mention about various filtering techniques used. [4]
   c) What are the basic characteristics of map? [3]
   d) What do you mean by network tracing? [3]
   e) Explain how GIS can be an efficient tool in predicting the acreage and is beneficiary to insurance companies. [4]
   f) What the main objectives of watershed management program? [4]

PART–B *(3x16 = 48 Marks)*

2. a) Explain energy interaction with the surface of earth? [8]
   b) Discuss about different types of sensors used in the remote sensing. [8]

3. a) What is supervised classification? What are the basic steps and stages involved in a typical supervised classification? [8]
   b) What are the different spatial filtering techniques used in image processing? [8]

4. a) Define GIS. Briefly explain about spatial and aspatial data types with relevant examples. [8]
   b) Discuss UTM. State the limitations of UTM system. [8]

5. a) With an example discuss about edge matching. [8]
   b) Define proximity and what do you mean by optimal path. [8]

6. a) How best you can apply remote sensing and GIS technology as a tool for LULC mapping and planning? [8]
   b) Discuss how GIS and RS can be useful to improve the road traffic management in a metropolitan city. [8]

7. a) Explain how satellite imagery can be used for extraction of watershed parameters stating their advantages and advantages. [8]
   b) What is the methodology that can be adopted for flood forecasting and early warning to the stakeholders using RS and GIS? [8]