

## **D73**

### **B. Tech. EXAMINATION, 2020**

(Fourth Semester)

(B Scheme)

(Re-appear Only)

CE

CE206B

GEOMATICS ENGINEERING

*Time : 3 Hours]*

*[Maximum Marks : 75*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

#### **Unit I**

1. (a) Define GIS. Describe the key components of GIS. 7½  
(b) Define map and map scale. Classify maps on the basis of scale. 7½
2. Explain briefly about the process of Remote Sensing with a neat supporting diagram. 15

#### **Unit II**

3. (a) List major atmospheric windows. 5  
(b) Differentiate between : 10
  - (i) Rayleigh and Mie scattering
  - (ii) Specular and Diffused Reflectance.

4. Draw spectral reflectance curves (SRC) of vegetation, soil and water in visible and NIR regions. Explain the need of drawing SRC. **15**

### **Unit III**

5. (a) Write a short note on Indian Remote Sensing Satellite System. **7½**  
(b) Discuss Whiskbroom and Pushbroom scanners. **7½**
6. What is a histogram ? Describe its utility in digital image processing. **15**

### **Unit IV**

7. Explain the following Image Enhancement Techniques : **15**  
(a) Image reduction and magnification  
(b) Contrast enhancement.
8. An area is to be taking vertical photographs of 23 cm square format with an elevation of 1500 m above the average ground. The airbase is 875 m and focal length of the camera is 150 mm. Determine the end overlap and side overlap, if the adjacent flights are 1800 m apart. **15**