U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E. **Semester: VI**
Branch: Civil Engineering **Duration: 3 hrs.**
Course Code: 20CV6PEGSS **Max Marks: 100**
Course: Geo Spatial Surveying

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.
3. Draw neat sketches wherever necessary

UNIT - I

1 a) Define remote sensing. Explain the working principle of remote sensing. Also, with a neat sketch explain the components of a remote sensing system. **10**

b) Define atmospheric windows and explain the different atmospheric windows available for remote sensing. **10**

OR

2 a) Classify remote sensing based on the platform, type of energy, wavelength regions used and the number of bands. List the applications of each of these classes of remote sensing. **10**

b) Explain various resolutions applicable to remote sensing and their relevance. **10**

UNIT - II

3 a) Explain the term contrast enhancement and its importance in image processing. Also, explain any three contrast enhancement processes commonly used in satellite image processing. **10**

b) Explain the following processes and their importance in digital image processing. **10**
i) Image magnification ii) Colour composition

UNIT - III

4 a) Differentiate between supervised and unsupervised classification. Explain the procedure adopted in each of these methods. **10**

b) Explain the concepts of confusion table, user accuracy and producer accuracy in image classification. **10**

UNIT - IV

5 a) Explain the components of GIS and the role of each one of them. **06**

b) Explain the structure and advantages of network data model in GIS. **06**

c) Differentiate raster and vector data models in GIS, mentioning the data structure, advantages and drawbacks of each of these models. **08**

UNIT - V

6 a) Define a map scale and discuss its relevance. Explain different ways the scale is represented in a map. **06**

b) Explain the raster data query operations in GIS. **06**

c) Differentiate between UTM projection and Geographic Coordinate Systems. **08**

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