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B. Tech. (SEM IV) THEORY EXAMINATION 2017-18 GEOINFORMATICS

Time: 3 Hours

Total Marks: 70

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

- a. What is photogrammetric survey?
- b. Define remote sensing.
- c. Discuss electromagnetic spectrum concept in remote sensing.
- d. What do you mean by digital image processing?
- e. Define GIS.
- f. Describe Attribute Data.
- g. What is GPS?

SECTION B

2. Attempt any *three* of the following:

- a. What do you understand by the term 'Aerial Photography'? Also write a short note on the factors that influence aerial photography.
- b. What do you understand by the term 'Remote Sensing'? Discuss the advantages of remote sensing. Also explain ideal remote sensing system.
- c. What is digital image? Enumerate and explain the various digital image data formats.
- d. Discuss GIS and all its components in detail.
- e. Explain the principle which helps GPS to determine the position of place.

SECTION C

3. Attempt any *one* part of the following:

- (a) Differentiate between 'Aerial Photography' and 'Aerial Photogrammetry'.
- (b) A flooded area is covered by 140 dots on a 25 dot/cm² grid on a 1:25000 vertical aerial photographs. Find the ground area flooded.

4. Attempt any *one* part of the following:

- (a) Explain the following:
 - 1) Spectral Reflectance Curves and Atmospheric Windows.
 - 2) Resolution of Remote Sensing System.
- (b) Describe multi-concept in Remote Sensing. Explain how remote sensing helps in flood related studies.

5. Attempt any *one* part of the following:

- (a) What is Image Rectification? Explain the various types of image rectifications.
- (b) What do you understand by Image Classification? Differentiate between supervised and unsupervised classification.

6. Attempt any *one* part of the following:

- (a) Describe the following:
 - i) Raster Data ii) Vector Data
- (b) Explain the functions of GIS. What are the applications of GIS?

7. Attempt any *one* part of the following:

- (a) Explain the functional segments of GPS.
- (b) Explain the working principle of DCPS

 $7 \ge 1 = 7$

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7 x 1 = 7

 $7 \ge 1 = 7$

 $7 \ge 1 = 7$

 $7 \ge 1 = 7$

 $7 \ge 3 = 21$

 $2 \ge 7 = 14$