B. Tech. Examination 2021-22

(Even Semester)

GEOINFORMATICS

Time : Three Hours]   *[Maximum Marks : 60*

Note :–   Attempt all questions.

SECTION – A

1. Attempt all parts of the following : $8 \times 1 = 8$

    (a)   What are the four components of GIS?

    (b)   What is meaning of GIS ?

    (c)   What do you mean by spectral signature?

    (d)   What are passive and active sensors?

    (e)   Define drift and crab.

    (f)   What is photo grammetic survey?

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(g)   What is DGPS?

(h)   What are three components of GPS?

SECTION – B

2. Attempt any two parts of the following : $6 \times 2 = 12$

(a)   Describe the following :

(i)   Raster data

(ii)   Vector data

(b)   What do you understand by term 'Remote sensing'? Discuss the advantage of remote sensing. Also explain ideal remote sensing system.

(c)   What do you understand by the term Aerial photography? Also write short note on the factors that influence aerial photography.

(d)   Explain the functional segments of GPS with neat sketch.

SECTION – C

Note:-   Attempt all questions. Attempt any two parts of the following. $8 \times 5 = 40$

3. (a) What do you understand by GIS? Enlist and explain various components of GIS.

    (b) What is GIS data models? Differentiate between raster and vector data models of GIS.

    (c) Explain the functions of GIS. What are the applications of GIS?

4. (a) Differentiate between restoration and enhancement of remote sensing images. List any four image enhancing operation and explain any one of them.

    (b) What is image rectifications? Explain various types of image rectifications.

    (c) What do you understand by image classifications? Differentiate between supervised and unsupervised classification.

5. (a) What is flight planning? Explain the end lap and side lap with the diagram.

    (b) Explain the characteristics of photographic images and also describe the fundamantals of aerial photo-interpretation.

(c) A vertical photograph where taken from height of 30 48m, the focal length of camera lens being 15.24 cm, if the prints were 22.86 $\times$ 22.86 cm and overlap 60%. What was the length of airbase? What would be scale of the print.

6. (a) Write note on GNSS and advantages of GPS.

(b) What are the sources of errors in GPS? List and explain briefly how the errors can be minimized with help of differential GPS?

(c) What is GPS space segment, explain it with neat sketch.

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