(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0022 **Roll No.**

B.Tech.

(SEM IV) EVEN SEMESTER THEORY EXAMINATION, 2009-2010

GEOINFORMATICS

Time : 3 Hours *Total Marks : 100*

Note : *(i) Attempt **ALL** the questions.*

*(ii) All questions carry **equal** marks.*

(iii) Be precise in your answers.

1. Attempt **any two** parts of the following : **(2x10=20)**

(a) Explain what is relief displacement and how is it calculated ? The distance from the principal point to an image on a photograph is 6.44 cm and the elevation of the object above datum is 250 m. What is the relief displacement of the point if datum scale is 1 : 10000 and focal length is 20 cm ?

(b) What are the elements of air photo interpretation? With a suitable example, explain the importance of Association in interpretation of photographs.

(c) Describe with a neat sketch :

(i) Parallax bar

(ii) Mirror stereoscope

Printed Pages – 3

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0022 Roll No. | | | | | | | | | | |

B.Tech.

(SEM IV) EVEN SEMESTER THEORY EXAMINATION, 2009-2010

GEOINFORMATICS

Time : 3 Hours *Total Marks : 100*

Note : *(i) Attempt **ALL** the questions.*

*(ii) All questions carry **equal** marks.*

(iii) Be precise in your answers.

1. Attempt **any two** parts of the following : **(2x10=20)**

(a) Explain what is relief displacement and how is it calculated ? The distance from the principal point to an image on a photograph is 6.44 cm and the elevation of the object above datum is 250 m. What is the relief displacement of the point if datum scale is 1 : 10000 and focal length is 20 cm ?

(b) What are the elements of air photo interpretation? With a suitable example, explain the importance of Association in interpretation of photographs.

(c) Describe with a neat sketch :

(i) Parallax bar

(ii) Mirror stereoscope

2. Attempt **any two** parts of the following : (2x10=20)

(a) What are the characteristics of real remote sensing systems? How do they differ from the ideal requirements?

(b) Explain the general process involved in electromagnetic remote sensing. Differentiate between active and passive remote sensing systems. Under what conditions which are preferable?

(c) What are essential differences between a raw, standard and a geocoded imagery? Which are most suitable in terms of geometric quality?

3. Attempt **any two** parts of the following : (2x10=20)

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

(b) What is land use map of an area? How it can be prepared with the use of remote sensing ?

(c) What are temporal images? Why these are used in remote sensing ? Explain with a suitable example, which cannot be carried out without the use of temporal images.

4. Attempt **any two** parts of the following : (2x10=20)

(a) What do you understand by spatial data? How is the spatial relationship represented?

(b) What is an information system? State reasons to support that a map is an information system.

(c) What are the important functions in a GIS? Explain buffering with suitable examples in context to vector data.

5. Attempt **any two** parts of the following : (2x10=20)

(a) What do you understand by GPS? Identify its 3 segments and explain the purpose of each.

(b) How many satellites must be visible in order to determine 3-D positions correctly? Discuss how the distance from the satellite to the GPS receiver is determined with a suitable sketch.

(c) Describe the following :

(i) Kinematic GPS

(ii) Dilution of precision

- o O o -