Printed Pages : 3

NCE402

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

PAPER ID : 100410

Roll No.

B. Tech.

(SEM. IV) THEORY EXAMINATION, 2014-15

GEO-INFORMATICS

Time : **3** Hours] [Total Marks : **100**

Note : Attempt **all** the questions.

1 Attempt any TWO questions : 2×10=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 250m what is the relief displacement of the point if datum is 1/10000 and focal length is 20cm.

(b) Describe any **TWO** with a neat sketch :

(i) Parallax bar

(ii) Mirror stereoscope

(c) Why overlapping is necessary ? The scale of aerial photograph is 1cm=160m and the size of photograph is 20 cm*20cm. If the longitudinal lap is 65% and side lap 35%. Determine the no. of photographs required to cover an area 348 sq. km.

2 Attempt any TWO questions. 2×10=20

(a) Differentiate the following :

(i) Geostationary and sun-synchronous satellites.

(ii) Ideal and real remote sensing system

(b) Explain the general process involved in electromagnetic remote sensing. Differentiate between active and passive remote sensing systems, under what condition each is preferable.

(c) In remote sensing what is multiconcept ? Explain its use in various applications.

3 Attempt any TWO questions. 2×10=20

(a) Describe in berief the radiomatric and geomatric corrections which are required for rectification of satellite image.

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

(c) Explain land use land cover classification system. Also describe one method of supervised classification of remote sensing image.

4 Attempt any TWO questions. 2×10=20

(a) Describe advantages and disadvantages of vector data structure and raster data structure.

(b) What is GIS and its component ? Explain.

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

5 Attempt any TWO questions. **2×10=20**

(a) Describe differential GPS and its advantages and functioning.

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

(c) Explain following : (any **two**)

(i) Global navigation satellite system.

(ii) Kinematic GPS.

(iii) Principle of data encoding.
