MGIS–04/PGDGIS–04

DIP and Mapping

Master of Geographical Information System/Post Graduate Diploma in Geographical Information System (MGIS/PGDGIS–11/16/17)

First Year, Examination, 2018

Time : 3 Hours   **Max. Marks : 80**

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

Section–A

(Long Answer Type Questions)

Note : Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Explain the Digital Image Processing in detail with all its elements using suitable examples.

2. Define image classification. What are the differences between supervised and unsupervised classification ? Describe the limitations of each type of classification.

3. Define the importance of ground truthing in Remote Sensing. Prepare a field form for ground truthing of any *two* applications of remote sensing.

4. What is cartography ? What do you understand by projection and datum ? Discuss about the significance and different uses of maps.

Section–B
(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. What do you understand by identify the digitization errors ?

2. Explain the principle of the computer cartography.

3. Write a short note about metadata and raster data.

4. Differentiate between Radiometric and Geometric correction.

5. What are the differences between a map and an image ?

6. Write the difference between DEM and TIN.

7. What are the different types of image formats ? Explain at least *three* types of formats.

8. Define the importance of vector data over the raster data. Describe various types of vector data with suitable examples.

Section–C
(Objective Type Questions)

Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

1. SRTM stands for "Shuttle Radar Topography Mission".

   (a) True   (b) False

2. Which is not a part of a map ?

   (a) Interpreter   (b) Label

   (c) North Arrow   (d) Scale

3. Information from multiple images taken over a period of time is referred to as multi-temporal information.

   (a) True   (b) False

4. Topographic map from plainimetric map and contour map need :

   (a) Addition   (b) Superposition

   (c) Registration   (d) Orientation

5. Which of the following is a correct way to sharpen an image ?

   (a) (i)   Convolve the image with identity matrix.

        (ii) Subtract this resulting image from the original.

        (iii) Add this subtracted result back to the original image.

   (b) (i)   Smooth the image.

        (ii) Subtract this smoothed image from the original.

        (iii) Add this subtracted result back to the original image.

   (c) (i)   Smooth the image.

        (ii) Add this smoothed image back to the original image.

   (d) None of these

6. Clarity, Order, Balance, Contrast, Unity, Harmony are elements of :

  (a) Map layout

  (b) Mapping symbol

  (c) Map design

  (d) Map legend

7. _____ are topographical errors where an arc or a line does not end at the point where it should.

  (a) Undershoot

  (b) Dangles

  (c) Overshoot

  (d) None of these

8. Layer tinting is a method of showing relief by colour.

  (a) True

  (b) False

9. How many toposheet (1:50,000) are in the toposheet of scale 1 : 2,50,000 ?

  (a) 4   (b) 8

  (c) 12   (d) 16

10. The traditional method of classification mainly follows :

  (a) Unsupervised

  (b) Supervised

  (c) Both (a) and (b)

  (d) None of these