S-828 Roll No. ……..

MGIS–06

Photogrammetry

Master of Geographical Information System

(MGIS-11/16/17)

Second 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. Briefly explain about relief displacement and its importance in photogrammetry.
2. What is relative orientation ? How does it differ from absolute orientation ?
3. Explain briefly the interior and exterior orientation in photogrammetry. List out the parameters involved in these process.
4. What is a projection system ? Write a brief note on different types of projection system with diagrams.

Section–B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (8) marks each. Learners are required to answer *four* (04) questions only.

1. What is the difference between principal distance and focal length of a camera ?
2. Define spatial, spectral and radiometric resolution citing examples for each.
3. Define Geodesic datum.
4. What is photoscale ?
5. Define nadir point and control point in term of aerial photogrammetry.
6. Describe the importance of tone and texture in image interpretation.
7. Draw a flow diagram for the steps involved in orthophotogeneration.
8. What is a stereopair and what for it is used ?

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. Pick up the correct statement from the following :

   (a) The scale of the aerial photograph depends upon the scale of the topography.

(b) The scale of the topography of regions of higher elevation with the same flying height is larger than that of the area of lower elevation.

(c) All of the above

(d) The feature at the principal point has no height displacement.

2. Which one of the following factors does not affect the scale of the aerial photographs ?

(a) flying height

(b) ground elevation

(c) focal length

(d) None of these

3. Accuracy is a term which indicates the degree of conformity of a measurement to its :

(a) Most probable value

(b) Mean value

(c) True value

(d) Standard error

4. Precision is a term which indicates the degree of conformity of :

(a) Measured value to its true value.

(b) Measured value to its mean value.

(c) Measured value to its weighted mean value.

(d) Repeated measurements of the same quantity to each other

5. The principal line is the line joining the principal point and :
   (a) Nadir
   (b) Isocenter
   (c) Perspective centre
   (d) None of these

6. A defined spatial reference system is needed for:
   (a) Co-registration of spatial data sets
   (b) Finding spatial data on the internet
   (c) Making correct spatial measurements
   (d) To spatially index a data set

7. A and B are two towers of equal height diametrically opposite on either side of the nadir point, at 3 km and 5 km distances. Which one of the following statements is correct ?
   (a) Height displacement of A will be less than that of B.
   (b) Height displacement of B will be less than that of A.
   (c) Height displacement of A and B is equal.
   (d) Height displacement of A and B will be towards each other.

8. The point on the celestial sphere vertically below the observer's position, is called :
   (a) Zenith
   (b) Celestial point
   (c) Nadir
   (d) Pole

9. What does 1 mm on a map drawn at a scale of 1 : 50,000 represent on the ground ?

   (a) 50 metres

   (b) 5 metres

   (c) 500 centimetres

   (d) 50 centimetres

10. Spatial Resolution may best be defined as :

   (a) the accuracy and precision of the data.

   (b) the overall quality of a data set.

   (c) the size of the smallest recording unit.

   (d) the smallest unit or measurement into which data can be disaggregated.

   (e) the smallest feature that can be mapped or measured