

MGIS-07

Advance GIS and RS

Master of Geographical Information System
(MGIS-11/16/17)

Second Year, Examination, 2017

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. What do you understand by 3D GIS ? What way is it different from GIS ? Explain the importance 3D GIS in urban studies.
2. What is Modeling ? Briefly explain the concept of Geo-Spatial modeling techniques for resource management.
3. What do you mean by Thermal Remote Sensing ? What way is it different from Microwave Remote Sensing ? Elaborate.

4. What is Digital Image Processing ? How is it different from visual classification ? Briefly explain contrast enhancement technique.

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. Hyperspectral Remote Sensing.
2. Web GIS.
3. Vegetation indices.
4. LIDAR Applications.
5. Differentiate between Land Use and Land Cover.
6. Concept of NSDI.
7. Differentiate between GIS and GPS.
8. Open GIS.

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. IRNSS is a constellation of satellites for :
 - (a) Night time images
 - (b) All weather satellites
 - (c) Hyperspectral remote sensing
 - (d) Global positioning system

2. Which of these is a microwave remote sensing satellite ?
 - (a) Resourcesat 1
 - (b) Thematic Mapper
 - (c) SPOT
 - (d) RISAT
3. GRASS is :
 - (a) Image processing software
 - (b) Image scanning device
 - (c) Open source GIS software
 - (d) None of the above
4. Normalised difference vegetation index is expressed as :
 - (a) $\frac{IR-R}{IR+R}$
 - (b) $\frac{IR+R}{IR-R}$
 - (c) $\frac{R-IR}{R+R}$
 - (d) $\frac{R+IR}{R-IR}$
5. LIDAR is popularly used for :
 - (a) Making 3D representation of the Target
 - (b) Measures the distance to the target with a pulse laser light
 - (c) Making high resolution maps
 - (d) All of the above
6. Geo-spatial modeling requires :
 - (a) Remote sensing based data
 - (b) Digital data in grid format
 - (c) Geo-referenced data
 - (d) Dimensional optical data

7. Hyperspectral data are :
 - (a) Having all weather capability
 - (b) Having wide spectral bands
 - (c) Having narrow spectral bands
 - (d) None of these
8. Data input methods for GIS analysis of remote sensing data is :
 - (a) Through scanning and digitisation
 - (b) On screen digitisation
 - (c) Manual digitization using digitization table and mouse
 - (d) All of the above
9. In digital image processing :
 - (a) Training sets are not required for land use classification
 - (b) Training sets are required for classifying different classes
 - (c) Training sets are important for vegetation indices
 - (d) None of the above
10. Urban planning and design can be best done using :
 - (a) 2D GIS
 - (b) 3D GIS
 - (c) OS-GEO
 - (d) OC-GIS