

## **MGIS–03/PGDGIS–03/CGIS–03**

### **Remote Sensing and GPS**

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

First Year/First Semester, Examination, 2018

**Time : 3 Hours**

**Max. Marks : 80**

**Note :** This paper is of **eighty (80)** marks containing **three (03)** Sections A, B, C. 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 atmospheric interaction with electromagnetic radiation.
2. Distinguish between satellite remote sensing and microwave remote sensing.
3. Explain sun synchronous and geosynchronous. Discuss in detail about the geometric characteristics of imagery.

4. Distinguish between supervised and unsupervised classifications.

### 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 are the components of remote sensing ?
2. Explain the effects of surface roughness on scattering of EM energy.
3. What is called remote sensing platform ? Mention the types.
4. What are the characteristics of land satellites ?
5. Explain visual image interpretation.
6. What is image enhancement ?
7. What are the types of resolution ?
8. Define spectral signature curve.

### Section–C

#### (Objective Type Questions)

**Note :** Section ‘C’ contains ten (10) objective type questions of one (1) mark each. All the questions of this Section are compulsory.

Choose the correct answer :

1. The spectral region of the electromagnetic radiation which passes through the atmosphere without much attenuation is known as :
  - (a) Ozone hole
  - (b) Atmospheric window
  - (c) Ozone window
  - (d) Black hole

2. The instruments which provide electromagnetic radiation of specified wavelength or a band of wavelengths to illuminate the Earth surface are called :
  - (a) Sensors
  - (b) Passive sensors
  - (c) Active sensors
  - (d) None of these
3. Which one of the following helps to identify the objects on the earth surface ?
  - (a) Atmospheric window
  - (b) Signature
  - (c) Radiometric error
  - (d) None of these
4. The basic requirement of any sensor system is :
  - (a) Radiometric resolution
  - (b) Spatial resolution
  - (c) Spectral resolution
  - (d) All of the above
5. Which one of the following residual biases involves the GPS accuracy ?
  - (a) Satellite dependent biases due to uncertainty in the orbital parameters of the satellite
  - (b) Receiver dependent biases due to clock stability with line
  - (c) Signal propagation biases due to the sphere and troposphere propagation
  - (d) All of the above

Write True *or* False :

6. The altitudinal distance of a Geostationary satellite from the earth is about 36000 km. (True/False)
7. The layers of the soil parallel to the earth surface are called horizons. (True/False)
8. In GPS receivers are used atomic clocks. (True/False)
9. In remote sensing, observation place is called a platform. (True/False)
10. The normal altitude of GPS satellite is about 36100 km. (True/False)