

M.Sc Sem.-2 Examination

P - 407

Geoinformatics

June 2022

Time : 2-00 Hours]

[Max. Marks : 50

Section 1

Attempt any three questions from Q1 to Q8 in Section 1

			Marks
Q1	A	What is photogrammetry ? What are the two main areas of concerned in photogrammetry?	7
	B	What the categories of photogrammetry? Briefly Explain it.	7
Q2	A	What is aerial photograph? What are the differences between maps and aerial photograph?	7
	B	Explain the concept of projection? Briefly Explain it?	7
Q3	A	what is supervised classification? Explain three phase of supervised classification?	7
	B	Define type of classification ?explain different between supervised and unsupervised classification?	7
Q4	A	what is image interpretation? Explain image interpretation techniques?	7
	B	Briefly explain elements of visual image interpretation?	7
Q5	A	Explain hyperspectral remote sensing. What do you mean by spectral resolution?	7
	B	What do you mean by hyperspectral data cube? How it differs from multispectral data?	7
Q6	A	What is the role of hyperspectral data library in data analysis? What is spectral feature fitting?	7
	B	Explain linear spectral mixing model. At a given wavelength, pure spectra (From Spectral library) from tree shows value of reflectance as 50% whetreas grass is 10%. Observed mixed spectra from hyperspectral data is 30%. Calculate percentage of tree and grass within pixel	7
Q7	A	What do you mean by atmospheric correction of satellite images. What is path radiance.	7
	B	Explain Lidar Remote sensing. Also Explain principle of building height measurements using Lidar.	7
Q8	A	For land surface temperature measurement, what is the best time for data acquisition and why?	7
	B	Explain active and passive microwave remote sensing. What are resolutions in SAR images.	7

Section 2

All the question of Section 2 are compulsory.

P.T. 0

E 453-2

Q-1) Terrestrial photogrammetry is taking photographs of

- A) The terrain of the earth from a moving aircraft
- B) The terrain of the earth from a static aircraft
- C) The terrain of the earth from cameras in ground
- D) Celestial bodies from a moving aircraft

Q-2) Parallax in aerial photographs is an error due to

- A) Movement of camera and ground relief
- B) Overlap in photographs
- C) Distortion caused by camera lens
- D) Distortion due to lack of focus

Q-3) What is Digital Image Processing?

- A) It's an application that alters digital videos
- B) It's a software that allows altering digital pictures
- C) It's a system that manipulates digital medias
- D) It's a machine that allows altering digital images

Q-4) What are the categories of digital image processing?

- A) Image Enhancement
- B) Image Classification and Analysis
- C) Image Transformation
- D) All of the mentioned

Q-5) Spectral signature of an object in a satellite image does NOT depend on the

- (A) season of the year
- (B) wavelength of electromagnetic spectrum
- (C) swath width of the satellite
- (D) reflectance value from the object

Q-6). Which is correct in order on increasing frequency:

- (A) L-band, X-Band, C-band, S-band
- (B) L-band, S-band, C-band, X-band
- (C) S-band, X-band, C-band, L-band
- (D) X-band, C-band, S-band, L-band

Q-7) Which of the following is image based atmospheric correction model:

- A. Dark pixel method
- B Radiative transfer model
- C Scattering and attenuation measurement
- D. None of above

Q-8) Which of the following statement is wrong:

- A. SAR sensor uses microwave signal
- B. Azimuthal resolution and range resolution have same meaning
- C. SAR is an active sensor.
- D. Radar signal can penetrate the cloud