Department of Geology & Geophysics
Mid_Autumn-Semester Examination 2022-23

Name of the Subject- RS and GIS (EX51003)
No. of Students: 50
Total Marks: 60

Time: 2 Hours

1. Explain given statement as *True* or *False*   [10 X 3]
i. Sun emits uniform energy for all wavelengths
ii. Solar zenith angle depends on ground elevation.
iii. Highway without visible junctions is a good GCP choice for georeferencing.
iv. True colour composite for Hyperion satellite image is 3-2-1.
v. Scale and spatial resolution are the same and constant for a digital image
vi. BIP format is appropriate for the whiskbroom camera.
vii. With a change in band combination, a spectral signature would also change.
viii. Sun-synchronous satellites are preferable for storm tracking.
ix. If DN value 30 of NIR band is chosen as the land-water boundary threshold, DN value 28 will be marked as water.
x. Fiducial marks are used for identifying the Nadir point.

2. Give R-G-B colour composite for following 1-bit images. Use **3-D colour cube** to explain your answer.   [10]

1	1	1	1	0
1	1	0	0	1
1	0	0	0	1
0	0	0	1	1
0	1	1	1	0
1	1	1	1	0

Red

0	0	0	0	1
0	0	1	1	0
0	1	1	1	0
0	1	1	0	0
1	0	0	0	1
0	0	0	0	1

Green

0	0	0	0	0
0	0	0	0	1
0	0	0	0	1
0	0	0	1	1
0	1	1	1	1
1	1	1	1	1

Blue

3. What are systematic and non-systematic errors for image acquisitions? Describe image georeferencing methods.   [10]

4. What are the various components of ideal remote sensing? What are advantages and disadvantages of remote sensing?   [10]

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