Exam-1 4<sup>th</sup> Feb, 2021

## **Remote Sensing**

Time: 45 minutes Total Marks: 25

## (Write answer on white sheet, scan, submit as RollNo-Exam1.Pdf by 11.15 am in the Portal)

## I. Answer in one word / one sentence (10 marks / 8 minutes)

- 1. The key factor for the selection of a platform is the ----- that determines the ground resolution.
- 2. ----- type of scattering is responsible for the fog
- 3. Gaps in reflectance pattern in EMS are because of -----
- 4. Weather satellites are -----satellites
- 5. Suppose you have a digital image which has a radiometric resolution of 6 bits. What is the maximum value of the digital number which could be represented in that image?
- 6. A pixel with brightness value of ----- appears as white on 8-bit image
- 7. The changes in the reflectivity/emissivity with time, is called: (a) Spectral variation (b) Spatial variation (c) Temporal variation
- 8. What type of EMR interaction occurs with water vapour and ozone?
- 9. The earth acts as a blackbody with a temperature of 300 K., what is the wavelength associated with the maximum spectral radiation flux for the earth?
- 10. State how fresh snow and bare asphalt interacts to incident radiation?

## II. Answer in two/four sentences (4 Marks / 10 minutes)

- 1. What is adjacency effect? What is its impact on satellite data?
- 2. Explain how can you use the spectral reflectance curve to identify the moisture content in vegetation and soil?
- III. 1. Differentiate between (3 important differences- tabular form) (6 marks / 10 minutes) a. Pushbroom and whiskbroom scanners b. Optical and microwave sensors
- IV. 1. Spectral response can be quite variable, even for the same target type and can also vary with time and location" Explain with TWO examples (5 marks/ 10 minutes)

(Approx. 38 minutes for writing and rest of the time for scanning and uploading)