Ssac.3107   Geo-informatics, Nanotechnology and Precision Farming (1+1)   **Marks: 50**

Time: 2 hours

I   **Fill in the blanks**   (10x1=10)

1 All objects radiate electromagnetic energy and the total amount of emitted radiation increases with the bodies absolute temperature and peaks at progressively ....wavelengths.

2 During early half of twentieth century ......were used in military surveys and topographical mapping.

3 Interaction of the solar radiation and reflected radiation from the target with the atmospheric constituents that interfere with the process of remote sensing is called as......................

4 Photographic images are superior in .... compared to scanner images.

State True or False

5 The sky appears blue because of non-selective scattering while the whitish appearance of the sky under haze condition is due to Raleigh Scattering.

6 In the bottom-up approach, materials and devices are built from molecular components and which assemble themselves chemically by principles of molecular recognition.

7 In its final configuration, the NAVSTAR GPS consists of 21 satellites at an altitude of 2000 km above earth's surface.

8 Precision Farming system within a field is also referred to as Site Specific Crop Management (SSCM).

Define the following

9 Image interpretation
10 Nano particle

II   **Write Short notes on ANY FIVE of the following**   (5x2=10)

1 STCR
2 LandSat-TM
3 Spectral Signature
4 Raleigh Scattering
5 Atmospheric Windows
6 False Colour Composite (FCC)
7 Precision Agriculture

III   **Answer ANY FIVE of the following**   (5x4=20)

1 What is a Nano pesticide and give an example each for nanocapsule and nanogranule?
2 What is DGPS and list the components of GPS?
3 Variable Rate Technology (VRT) in Precision Agriculture.
4 Advantages of satellite remote sensing.

5   What is Digital Terrain Model (DTM) or Digital Elevation Model (DEM) and write the applications of it?

6   Geographic Information Systems (GIS).

7   Applications of remote sensing.

IV   **Write an essay on ANY ONE of the following**   **(1x10=10)**

1   What is Precision Agriculture? Write the components and issues related to Precision Agriculture in Indian Agriculture?

2   What is Global Positioning System (GPS) and write about the important segments, components and applications of GPS?

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