1. What is the basic concept of remote sensing?
a) Direct observation of objects or phenomena from a distant location
b) Hands-on measurement of objects or phenomena
c) Direct interaction with objects or phenomena
d) Analysis of physical samples in a laboratory

Answer: a) Direct observation of objects or phenomena from a distant location

Explanation: Remote sensing involves gathering data about objects or phenomena without being in direct physical contact with them, usually using sensors on aircraft or satellites.

2. Which of the following is NOT a component of remote sensing data?
a) Spectral
b) Spatial
c) Temporal
d) Chemical

Answer: d) Chemical

Explanation: Remote sensing data typically includes spectral (different wavelengths), spatial (location and extent), and temporal (time-related) components, but not chemical properties.

3. What are the advantages of remote sensing?
a) High cost and resource requirement
b) Limited spatial coverage
c) Rapid and wide area coverage
d) Inability to capture data in real-time

Answer: c) Rapid and wide area coverage

Explanation: Remote sensing allows for quick and broad data collection over large areas, which is advantageous for various applications like environmental monitoring, disaster management, and urban planning.

4. Which of the following is a limitation of remote sensing?
a) Limited spatial resolution
b) Inability to collect data in different wavelengths
c) Difficulty in accessing remote areas
d) Low data storage capacity

Answer: a) Limited spatial resolution

Explanation: Spatial resolution refers to the level of detail in the imagery captured by remote sensing systems. Limited spatial resolution can hinder the ability to distinguish small features or objects.

5. What is the process of remote sensing?
a) Data analysis, interpretation, and presentation
b) Data collection, preprocessing, analysis, and application
c) Data visualization only
d) Data collection and storage only

Answer: b) Data collection, preprocessing, analysis, and application

Explanation: The remote sensing process involves collecting raw data, preprocessing (calibration, correction), analyzing the data to extract information, and applying the results to

various fields.

6. Which part of the electromagnetic spectrum is NOT typically used in remote sensing?
a) Visible light
b) Infrared
c) Ultraviolet
d) X-rays

Answer: d) X-rays

Explanation: While visible light, infrared, and ultraviolet wavelengths are commonly used in remote sensing, X-rays are not typically used due to their high energy and penetration capabilities, which are not suitable for surface imaging.

7. How does vegetation interact with energy in the electromagnetic spectrum?
a) Absorption
b) Reflection
c) Transmission
d) All of the above

Answer: d) All of the above

Explanation: Vegetation can absorb, reflect, and transmit different wavelengths of electromagnetic energy, leading to characteristic spectral signatures that remote sensing can detect and analyze.

8. What does resolution refer to in remote sensing?
a) Ability to detect different wavelengths

b) Ability to distinguish between objects or features
c) Time required for data collection
d) Data storage capacity

Answer: b) Ability to distinguish between objects or features

Explanation: Resolution in remote sensing refers to the level of detail or clarity in the imagery, indicating the sensor's ability to differentiate between objects or features on the Earth's surface.

9. What is image registration in remote sensing?
a) Process of aligning multiple images of the same area
b) Classification of image pixels
c) Adjusting image brightness and contrast
d) Converting digital images to analog format

Answer: a) Process of aligning multiple images of the same area

Explanation: Image registration involves aligning multiple images of the same area to ensure consistency and accuracy, often necessary for change detection or creating composite images.

10. What are false color composites used for in remote sensing?
a) Enhancing image contrast
b) Displaying images in unnatural colors
c) Correcting image distortions
d) Measuring atmospheric parameters

Answer: b) Displaying images in unnatural colors

Explanation: False color composites assign different wavelengths of light to different color channels, allowing for visualization of specific features or phenomena that may not be visible in natural color imagery.