Elements of Remote Sensing

Question No. 1 A reduction of nitrogen nutrient in plants:
(A) Affects leaf colour
(B) Reduces pigment concentration
(C) Increase the visible reflectivity
(D) All of these
Answer: Option D

Question No. 2 Remote sensing techniques make use of the properties of _____ emitted, reflected or diffracted by the sensed objects:

(A) Electric waves
(B) Sound waves
(C) Electromagnetic waves
(D) Wind waves
Answer: Option C

Question No. 3 Which one of the following statement is incorrect regarding the electromagnetic radiation?
(A) These are produced by the motion of electric charge
(B) The oscillation of charged particles sets up changing electric fields
(C) The changing electric fields induce the changing magnetic fields in the surrounding medium
(D) None of these
Answer: Option D

Question No. 4 The altitudinal distance of a geostationary satellite from the earth is about:
(A) 26,000 km
(B) 30,000 km
(C) 36,000 km
(D) 44,000 km
Answer: Option C

Question No. 5 The ratio of the total solar radiant energy returned by a planetary body to the total radiant energy incident on the body, the called:
(A) Reflectance
(B) Reflectance factor
(C) Albedo
(D) None of these
Answer: Option C

Question No. 6 Due to scan geometry of a satellite sensor:
(A) The off-nadir resolution is degraded
(B) The ground distance swept by the senor, IFOV is proportional to sec2 of scan measured from the nadir

(C) The details towards the edge of the scan get compressed
(D) All of these
Answer: Option D

Question No. 7 Which one of the following statement is correct?
(A) Radiant energy expressed in Joules, is the energy associated with electromagnetic radiation
(B) The rate of transfer of radiant energy is called flux and is expressed in watts
(C) The radiant energy which falls upon a surface is termed as irradiance
(D) All of these
Answer: Option D

Question No. 8 Which one of the following parameters is accurate for DGPS?
(A) Positional accuracies ~ 1 - 2 m if rover is less than 1-2 km from the reference station
(B) Positional accuracies ~ 2 - 5m if rover is less than 2-5 fm from the reference station
(C) Positional accuracies ~ 5 - 10 m if rover is less than 5-10 km from reference station
(D) Positional accuracies ~ 5 - 10 m if rover is less than 25 km
Answer: Option A

Question No. 9 Pick up the correct statement from the following:
(A) The surface defined by the locus of points having same phase, is called a wave front
(B) The wave whose surface of constant phase are parallel planes, is known as a plane wave
(C) The relative phase difference between the waves is important and not the absolute phase of a point on the wave
(D) All of these
Answer: Option D

Question No. 10 Which one of the following statements is correct?
(A)
(B) The cone subtended by an area on the sphere at the centre, is called the solid angle
(C) The solid angle is equal to the ratio of the area on the sphere and the square of the radius of the sphere
(D) All of these
Answer: Option D

Question No. 11 Crop Acreage and Production Estimation (CAPE) was funded and taken up in 1983 by:
(A) USA
(B) European Union
(C) Russia
(D) India
Answer: Option D

Question No. 12 'A time varying electric field produces a magnetic field.' This phenomenon is called:
(A) Hertz's law
(B) Ampere Maxwell's law
(C) Faraday's law
(D)

Answer: Option B

Question No. 13 The changes in the reflectivity/emissivity with time, is called:
(A) Spectral variation
(B) Spatial variation
(C) Temporal variation
(D) None of these
Answer: Option C

Question No. 14 Which one of the following statements is correct?
(A) Snow albedo falls at all wave length with the increase of grain size
(B) The effect of grain size on reflection is maximum in the near-IR region
(C) The effect of grain size on reflection is low in the visible region of the spectrum
(D) All of these
Answer: Option D

Question No. 15 Due to perturbation of the orbit, satellite orbit parameters are frequently updated on measurements carried out by its
(A) Six ground stations
(B) Five ground stations
(C) Four ground stations
(D) Three ground stations
Answer: Option B

Question No. 16 Which one of the following helps to identify the objects on the earth surface?
(A) Atmospheric window
(B) Signature
(C) Radiometric error
(D) None of these
Answer: Option B

Question No. 17 Pick up the correct statement from the following:
(A) Phase of a wave is expressed as a fraction of a period with respect to a reference
(B) Phase is usually specified by angular measure with one period being 360°
(C) The reference for finding the phase of a wave is taken from the previous passage through zero from the negative to the positive direction
(D) All of these
Answer: Option D

Question No. 18 The reflection of solar energy is characterised by the water content in the leaf, in the reflective optical infrared:
(A) Visible (0.4 –
(B) Near-IR (0.7 –
(C) Short wave-IR (1.3 –

(D) None of these
Answer: Option C

Question No. 19 The interaction of the electromagnetic radiation produced with a specific wave length to illuminate a target on the terrain for studying its scattered radiance, is called:
(A) Passive remote sensing
(B) Active remote sensing
(C) Neutral remote sensing
(D) None of these
Answer: Option B

Question No. 20 For interpolation of satellite data used for monitoring dynamic changes that occurs on the earth surface, the most suitable orbit for the satellite is:
(A) Circular orbit
(B) Sun-synchronous orbit
(C) Near polar orbit
(D) None of these
Answer: Option B

Question No. 21 Electromagnetic spectrum contains:
(A) Gamma rays (wave length < 10-10 m)
(B) Ultraviolet rays (wave length < 10-6 m)
(C) Infrared rays (wave length < 10-4 m)
(D) All of these
Answer: Option D

Question No. 22 Which one of the following quantities forms the basis of radiometry?
(A) Radiant energy (Q)
(B) Radiant flux ( )
(C) Radiant intensity (I)
(D) All of these
Answer: Option D

Question No. 23 According to the Snell's law if an electromagnetic wave is incident in a medium (refractive index n1) on another medium (refractive index m2);
(A) The angle of incidence is equal to the angle of refraction
(B) The angle of refraction r) is given by sin i
(C) Both (a) and (b)
(D) Neither (a) nor (b)
Answer: Option B

Question No. 24 The refractive index of the ocean water:
(A) Increases with salinity
(B) Increases with temperature

(C) Decreases with salinity
(D) Decreases with temperature
Answer: Option A

Question No. 25 The phase difference of the waves 1 and 2 at A in the given figure is:
(A)
(B)
(C)
(D)
Answer: Option B