

- A) For the same feature, the photograph taken from the satellite vertically above the aircraft, the height displacement is lesser than the aerial photograph
- B) The scale of the aerial photograph depends upon the scale of the topography
- C) The feature at the principal point has no height displacement
- D) All of the above
- (X) The attitude control system in a spacecraft is a
- A) System that achieves & maintains the required attitudes for satellites
- B) System that maintains the velocity of the satellites
- C) System that maintains the fuel control of satellites
- D) None of these
- (XI) For an elliptical orbit, the value of eccentricity is given by
- A) $0 < e < 1$
- B) $e = 1$
- C) $e = 0$
- D) None of these
- (XII) If the earth station downlink signal received is at $f_s = 4.08$ GHz, what first stage local-oscillator frequency f_{LO} is needed to achieve IF of 770 MHz?
- A) 3310 MHz
- B) 4080 MHz
- C) 1203 MHz
- D) 3250 MHz
- (XIII) The concept of frequency reuse is
- A) The carrier with opposite senses of polarization may overlap in frequency
- B) The carrier with same senses of depolarization may overlap in frequency
- C) The carrier with same senses of polarization may overlap in amplitude
- D) None of these
- (XIV) The application of satellite systems is
- A) Terrestrial Communication
- B) Point To Point Communication
- C) Weather forecasting
- D) None of these
- (XV) Which one the following is a correct statement?
- A) The vertical section of the soil extending into the parent material, is called profile
- B) The layers of the soil parallel to the earth surface are called horizons
- C) The transitional layer between two adjoining horizons is called boundary
- D) All of these
- (XVI) A television (TV) transmission is an example of which type of transmission?
- A) Simplex
- B) Half duplex
- C) Full duplex
- D) None of the above
- (XVII) The methods of multiple access techniques are
- A) TDMA
- B) FDMA
- C) Both TDMA and FDMA
- D) None of these
- (XVIII) 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
- (XIX) Repetitive observations of the same area at equal interval of time are useful to monitor the dynamic phenomena:
- A) Cloud evolution
- B) Vegetative cover
- C) Snow cover
- D) All of these
- (XX) Which of the following bands cannot be used for satellite communication?
- A) MF
- B) Ku
- C) X
- D) C
- (XXI) Which technique uses spot beam antennas to divide the area covered by the satellite into smaller segments?
- A) Spatial isolation
- B) Frequency reuse

- C) Multiplexing
D) Modulation

(XXII) The following is the type of digital speech interpolation

- A) Digital time assignment speech interpolation
B) Analog time assignment speech interpolation
C) Both Digital and Analog time assignment speech interpolation
D) None of these

(XXIII) The processing gain is a factor by which the jamming or interference signal signal is

- A) Reduced
B) Increased
C) Either increased or reduced
D) None of these

(XXIV) Which of the following can act as an example for air-borne platform?

- A) LISS-III
B) Dakota
C) MOS
D) LISS-II

(XXV) Formation of snow occurs if the cloud temperature is

- A) Just above the freezing point
B) At the freezing point
C) Below the freezing point
D) None of these

(XXVI) Coherence of two electromagnetic waves takes place if their phase difference is:

- A) Constant in time
B) Constant in space
C) Constant in time and space
D) None of these

(XXVII) Why are techniques like frequency reuse and spatial isolation carried out?

- A) Reduce traffic load
B) More gain
C) High speed
D) Error detection

(XXVIII) FM is preferred for satellite communication because

- A) large bandwidth and severe noise
B) high modulation index
C) Low bandwidth
D) None of the above

(XXIX) Rotation of a geosynchronous satellite means its

- A) drift from stationary position
B) wobbling
C) three-axis stabilization
D) three-dimensional stabilization

(XXX) While propagating through homogeneous, isotropic media,

- A) Directions of both the fields are orthogonal
B) Both the fields are at right angles to the direction of propagation
C) Both (a) and (b)
D) Neither (a) nor (b)

(XXXI) Why are VHF, UHF, and microwave signals used in satellite communication?

- A) More bandwidth
B) More spectrum space
C) Are not diffracted by the ionosphere
D) Economically viable

(XXXII) What is the use of the band pass filter in the receiver section?

- A) Protects the receiver
B) Increases antenna gain
C) Reduces noise
D) To reduce it to an intermediate frequency

(XXXIII) In an EM field, which field is placed horizontal?

- A) Gamma rays
B) Sonar field
C) Electric field
D) Magnetic field

(XXXIV) Which of the following is not a part of the propulsion subsystem of a satellite?

- A) Gyroscope
B) Jet thruster
C) AKM
D) Fuel control system

(XXXV) Which one of the following errors is produced by platform characteristics of the sensor?

- A) Altitude variation
 B) Altitude
 C) Orbit drift
 D) All of these

(XXXVI) 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

(XXXVII) Find the value of energy if the wave length is given as 43m.

- A) 0.46×10^{-26} J
 B) 0.46×10^{-26} J
 C) 0.46×10^{-26} J
 D) 0.46×10^{-26} J

(XXXVIII) Which of the following is not a reason for redistributing TV signals through satellites rather than skywaves or spacewaves?

- A) High frequency signal
 B) Long distance communication
 C) Economically feasible
 D) Power requirements

(XXXIX) What will be the wave length if the energy produced is 36J?

- A) 0.5×10^{-26} m
 B) 0.55×10^{-26} m
 C) 0.55×10^{-16} m
 D) 0.55×10^{-6} m

(XL) The reflectance from a surface is called specular reflection if it follows:

- A) Snell's law
 B) Lambert's cosine law
 C) Planktan's law
 D) All of these

(XLI) Perigee means

- A) The point farthest from earth
 B) The point longest from earth
 C) The point closest approach to earth
 D) None of the other mentioned

(XLII) What type of satellite TV service uses compressed data transmission to beam signals directly to every home?

- A) Direct broadcast satellite
 B) Mobile satellite service
 C) Broadcasting satellite service
 D) Fixed satellite service

(XLIII) A single access is a method by which

- A) A transponder channel aboard a satellite may be fully loaded by a single transmission from earth station.
 B) A transponder channel aboard a satellite may be fully loaded by a double transmission from earth station.
 C) A transponder channel aboard a satellite may be fully loaded by multiple transmissions from earth station
 D) None of these

(XLIV) Critical angle of electromagnetic radiation takes place if

- A) Angle of incidence is equal to angle of refraction
 B) Angle of incidence is greater than the angle of refraction
 C) Angle of incidence is equal to 90 degree
 D) Angle of refraction is equal to 90 degree

(XLV) Radio broadcasting is a familiar example of

- A) space multiplexing
 B) time multiplexing
 C) frequency multiplexing
 D) none of the above

(XLVI) Which frequency band does the direct broadcast satellite system use?

- A) C band
 B) X band
 C) Ku band
 D) MF band

(XLVII) Which of the following components receives, translates the signal frequency and re-transmits the signal in a satellite?

- A) Repeater
 B) Relay

C) Transponder

D) Transducer

(XLVIII) Which one of the following factors does not affect the scale of the air photographs?

A) Focal length

B) Flying height

C) Ground elevation

D) None of these

(XLIX) The changes in the reflectivity/emissivity with time, is called:

A) Spectral variation

B) Spatial variation

C) Temporal variation

D) None of these

(L) What provides the sufficient drive to the final power amplifier?

A) Intermediate-power amplifier

B) Operational amplifier

C) Power driver circuit

D) Up converter

(LI) The types of CDMA are

A) Spread spectrum multiple access

B) Pulse address multiple access

C) Both Spread spectrum multiple access and pulse address multiple access

D) None of these

(LII) Which one of the following statements regarding remote sensing is correct?

A) The interaction of the electromagnetic radiation with the target

B) The emission of electromagnetic radiation from the target

C) Both (a) and (b)

D) Neither (a) nor (b)

(LIII) What is the point on the surface of the earth that is directly below the satellite called?

A) Satellite point

B) Subsatellite point

C) Supersatellite point

D) Overhead point

(LIV) Crop Acreage and Production Estimation (CAPE) was funded and taken up in 1983 by:

A) USA

B) European Union

C) Russia

D) India

(LV) The transmitter-receiver combination in the satellite is known as a _____

A) Relay

B) Repeater

C) Transponder

D) Duplexer

(LVI) A transponder is a satellite equipment which

A) receives a signal from Earth station and amplifies

B) changes the frequency of the received signal

C) retransmits the received signal

D) does all of the above-mentioned functions

(LVII) Why is it not possible to provide transmit function by wideband amplifier and mixer circuits?

A) Heavy attenuation

B) High power output over wideband is not possible

C) Economically not profitable

D) Weight of the system increases five fold

(LVIII) The time period taken by the satellite to complete one orbit is called _____

A) Lapsed time

B) Time period

C) Sidereal period

D) Unit frequency

(LIX) The diplexer is device where

A) The transmit signals are separated

B) The receive signals are separated

C) Both the transmit & receives signals are separated

D) None of these

(LX) What is meant by telephone load activity factor?

- A) The fraction of time a transmission channel active is known as the telephone load activity factor.
- B) The fraction of time a transmission channel passive is known as telephone load activity factor.
- C) Both (a) and (b)
- D) None of these
- (LXI) What is the number of satellites present in the Iridium system?
- A) 72
- B) 51
- C) 66
- D) 32
- (LXII) Among the following, which describes Stefan- Boltzmann formula?
- A) $M = \sigma/T^4$
- B) $M = \sigma \cdot T^4$
- C) $M = \sigma + T^4$
- D) $M = \sigma * T^4$
- (LXIII) Which part of the transmitter subsystem modulates the baseband signal?
- A) Antenna
- B) Up converter
- C) Power amplifiers
- D) Mixer
- (LXIV) 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
- (LXV) The transponder is an
- A) Equipment which provides the connecting link between the satellite's transmit & receive antennas
- B) Equipment which provides the power supply
- C) Equipment which provides both the connecting link between the satellite's transmit & receive antennas and provides the power supply
- D) None of these
- (LXVI) A 20 m antenna gives a certain uplink gain at frequencies of 4/6 GHz. For getting same gain in the 20/30 GHz band, antenna size required is metre.
- A) 100
- B) 4
- C) 1
- D) 10
- (LXVII) 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
- (LXVIII) The velocity of a geostationary satellite is nearly
- A) 1255 km/hr
- B) 6757 km/hr
- C) 9422 km/hr
- D) 12644 km/hr
- (LXIX) Which of the following has the maximum value in an electric or magnetic field?
- A) Wave length
- B) Focal length
- C) Frequency
- D) Amplitude
- (LXX) What is the angle of inclination for a satellite following an equatorial orbit?
- A) 0 degree
- B) 45 degree
- C) 180 degree
- D) 90 degree