

India's Number 1 Education App

PHYSICS

BOOKS - MARVEL PHYSICS (HINGLISH)

COMMUNICATION SYSTEMS



1. An electron oscillating with a frequency of

 $3 imes 10^6$ Hz, would generate -

A. 1. X rays

- B. 2. Ultraviolet rays
- C. 3. Radio waves
- D. 4. Microwaves

Answer: C



2. If sound waves of frequency 20 KHz are to

be transmitted directly, then the length of the

dipole antenna required is

A. A. 3.75 km

B. B. 15 km

C. C. 7.5 km

D. D. 20 km

Answer: C

Watch Video Solution

3. Audio signal cannot be transmitted because

A. the signal has more noise

B. the signal cannot be amplified for

distance communication

C. the transmitting antenna length is very

small to design

D. the required length of the transmitting

antenna is very large and impracticable

Answer: D

4. Antennas are made from

A. 1. insulators

- B. 2. metallicconductors
- C. 3. semiconductors
- D. 4. super conductors

Answer: B

5. Which of the following systems are digital?

- A. 1. clinical thermometer
- B. 2. electronic counter used to count the

persons visiting an exhibition

- C. 3. electronic calculator
- D. 4. both b and c

Answer: D

6. Which of the following is not transducer?

A. Loudspeaker

B. Amplifier

C. Microphone

D. Photocell

Answer: B



7. The ratio waves of frequency 300MHz to 3000MHz belong to

A. Super high frequency band

B. Ultra high frequency band

C. Very high frequency band

D. High frequency band

Answer: B

8. What is the frequency of a 20 m radiowave?

A. a.15MHz

B. b.12MHz

C. c.1200 KHz

D. d.25 MHz

Answer: A

9. A basic communication system consists of (A) transmitter (B) information source (C) user of information (D)channel (E) receiver ` Choose the correct sequence in which these are arranged in a basic communicarion system.

A. ABCDE

B. BADEC

C. BDACE

D. BEADC

Answer: B



10. What should be the length of a half wave dipole antenna required to transmit audio frequency signals?

A. a.5 km

B. b.10 km

C. c.15 m

D. d.7.5 km

Answer: D



11. If the frequency of the carrier wave is increased from 10 MHz to 100 MHz, the length of the half wave dipole antenna required for transmission

A. a.increases

B. b.decreases

C. c.remains constant

D. d.will be doubled

Answer: B

Watch Video Solution

12. One requires 11eV of energy to dissociate a carbon monoxide molecule into carbon and oxygen atoms. The minimum frequency of the appropriate electromagnetic radiation to achieve the dissociation lies in.

A. visible region

B. infrared region

C. ultraviolet region

D. microwave region

Answer: C

Watch Video Solution

13. The intensity of a light pulse travelling along a communication channel decreases exponentially with distance x according to the relation $I = I_0 e^{-\alpha x}$, where I_0 is the intensity at x = 0 and α is the attenuation constant. What is the distance travelled by the wave, when the intensity reduces by 75% of its initial intensity?

A.
$$\frac{\log_e 4}{\alpha}$$

B.
$$\frac{\log_e 2}{\alpha}$$

C.
$$\frac{\alpha}{\log_e 4}$$

D.
$$\frac{\alpha}{\log_e 2}$$

Answer: A



14. A bandwidth of 6MHz is available for A.M. transmission . The maximum frequency of the audio signals used for modulating the carrier wave is 5 KHz. How many stations can be broadcasted simultaneously within this band without interferring with each other ?

A. 400

B. 500

C. 600

Answer: C



15. The central operating frequency of a microwave telephone link is 8 GHz. 5% of this frequency is available for microwave communication . How many telephone channels can be operated simultaneously if the bandwidth of each telephone channel is 5 KHz ?

A. A. $8 imes 10^5$

B. B. $8 imes 10^4$

C. C. $4 imes 10^6$

D. D. $6 imes 10^5$

Answer: B

Watch Video Solution

16. The T.V. signals have a bandwidth of 4.5 MHz. How many channels can be accommodated in a bandwidth of 27 GHz ? A. 4000

B. 5000

C. 6000

D. 7000

Answer: C

Watch Video Solution

17. In a communication system, operating at 1200 mm, only 2% of the source frequency is available for T.V. transmission , having a

bandwidth of 5 MHz. The number of T.V.

channels that can be transmitted is

A.a.1 million

B. b. 2 million

C. c. 0.5 million

D. d. 0.1 million

Answer: A

18. A communication channel having an operating wavelength of λ metre can use only x% of its source frequency as its channel bandwidth . If the system is to be used for transmitting T.V. signals requiring a bandwidth of F Hertz . How many channels can this system transmit simultaneously ?

A.
$$\frac{xc}{100\lambda F}$$

B.
$$\frac{100\lambda F}{xc}$$

C.
$$\sqrt{\frac{xc}{\lambda F}}$$

D.
$$\sqrt{rac{100\lambda F}{xc}}$$

Answer: A

Watch Video Solution

19. A transmitting station transmits radiowave of wavelength 360 m. What is the inductance of a coil required with a condenser of capacity 1.20 μ F in the resonant circuit to receive the radiowaves ? (Use π^2 =10)

A. $6 imes 10^{-8}$ H

B.
$$4 imes 10^{-8}$$
 H

C.
$$3 imes 10^{-8}$$
 H

D. $2 imes 10^{-8}$ H

Answer: C

Watch Video Solution

20. 1% of 10^{12} Hz of a satellite link was used for telephony . What is the number of channels (or subscribers) , if the bandwidth of each channel is 8 KHz ? A. A. $2.5 imes10^8$

B. $B.~1.25 imes10^6$

C. C. $2.5 imes10^7$

D. D. $1.25 imes 10^7$

Answer: B

Watch Video Solution

21. A male voice after modulation-transmission sounds like that of a female to the receiver. The problem is due to

A. poor selection of modulation index

(selected 0 lt m lt 1)

B. poor bandwidth selection of amplifiers

C. poor selection of carrier frequency

D. loss of energy in transmission

Answer: B

22. Indicate the 'wrong' statement from the following :

Modulation is used to

- A. 1. allow the use of practicable antenna
- B.2. ensure that the information is

transmitted over long distances

- C. 3. increase the band width
- D. 4. decrease the band width

Answer: D

23. A signal wave of frequency 12 kHz is modulated with a carrier wave of frequency 2-51 MHz. The upper and lower side band frequencies are respectively.

A. 2512 KHz and 2508 KHz

B. 2522 KHz and 2488 KHz

C. 2502 KHz and 2498 KHz

D. 2522 KHz and 2498 KHz

Answer: D



24. A modulated carrier wave has minimum and minimum amplitudes of 900 m V and 300 mV respectively. What is the percentage modulation index ?

A. 0.4

B. 0.45

D. 0.6

Answer: C

Watch Video Solution

25. A message signal of 1 KHz and peak voltage 50 v is used to modulate a carrier wave of frequency 1200 KHz and peak voltage 80 V. What is the modulation index ?

A. a. 0.5

B. b. 0.55

C. c. 0.6

D. d. 0.625

Answer: D

Watch Video Solution

26. The maximum peak-to-peak voltage of an AM wave is 16mV and the minimum peak-to-peak voltage is 4mV. The modulation factor is equal to

A.
$$\frac{2}{3}$$

B. $\frac{2}{5}$
C. $\frac{1}{3}$
D. $\frac{3}{5}$

Answer: D



27. A sinusoidal carrier voltage of 120 V is amplitude modulated by a sinusoidal voltage of frequency 10KHz. What is the modulation

index if the maximum modulated carrier

amplitude is 150 V?

A. A. 0.2

B. B. 0.25

C. C. 0.3

D. D. 0.45

Answer: B



28. A sinusoidal carrier wave of amplitude 40 V is amplitude modulated by a sinusoidal signal voltage. What is the amplitude of each side band if the modulation index is 25%.

A. A. 5 V

B. B. 4 V

C. C. 6 V

D. D. 8 V

Answer: A



29. When a sinusoidal carrier wave of voltage amplitude 3 kV is amplitude modulated by a sinusoidal signal voltage, two side bands each of amplitude 600 V are produced. What is the modulation index ?

A. a. 0.25

B. b. 0.3

C. c. 0.35

D. d. 0.4

Answer: D



30. A 500 KHz carrier wave is amplitude modulated by an audio signal of frequency span of 200 Hz to 4000 Hz. What is the bandwidth of the channel?

A. a. 4 KHz

B.b.6 KHz

C. c. 8 KHz

D. d.10 KHz

Answer: C

Watch Video Solution

31. A sinusoidal carrier wave of amplitude 80 V and frequency 600 KHz is amplitude modulated by a sinusoid voltage of frequency 30 KHz. What is the ratio of upper and lower side band frequencies ?

A.
$$\frac{20}{19}$$
B.
$$\frac{21}{19}$$

C. $\frac{25}{18}$
D. $\frac{23}{17}$

Answer: B

Watch Video Solution

32. Fig. 10 (CF).1 is the circuit diagram of an AM demodulator. For good demodulation of AM signal of carrier frequency f, the value of RC

should be



A.
$$RC=rac{1}{f}$$

B. $RC<rac{1}{f}$
C. $RC>rac{1}{f}$
D. $RC<rac{1}{f}$

Answer: C



33. If the highest modulating frequency of the wave is 5 kHz, the number of stations that can be accomodated in a 150 kHz bandwidth ?

A. 20

B. 15

C. 10

D. 5

Answer: B



34. In an amplitude modulated wave for audio

frequency of $500 {
m cycle}/{
m sec} \, ond$,the

appropriate carrier frequency will be

A. 50 Hz

B. 100 Hz

C. 500 Hz

D. 50,000 Hz

Answer: D



35. The maximum peak ro peak voltage of an AM wire is 24mV and the minimum peak to peak voltage is 8mV. The modulation factor is

A. 0.1

B. 0.2

C. 0.25

D. 0.5

Answer: D



36. A 1000 kHz carrier wave is modulated by an audio signal of frequency range 100-5000 Hz. Then, the width of channel (in kHz) is

A. 10 KHz

B. 20 KHz

C. 30 KHz

D. 40 KHz



37. A carrier frequency of 1 MHz and peak value of 10 V is amplitude modulated with a signal frequency of 10 KHz with peak value of 0.5 V. What are the values of the modulation index and the side band frequencies ?

A. 0.05 and 1 ± 0.010 MHz

B. 0.5 and 1 $\,\pm\,$ 0.010 MHz

C. 0.05 and $1\pm~$ 0.005 MHz

D. 0.5 and 1 $\,\pm\,$ 0.005 MHz

Answer: A

Watch Video Solution

38. In the process of modulation, the radio frequency wave is known as

- A. 1. a modulating wave
- B. 2. a modulated wave
- C. 3. a carrier wave

D. 4. a demodulated wave

Answer: C

Watch Video Solution

39. A sinusoidal voltage is used to amplitude modulate a sinusoidal voltage of amplitude 1 KV. This results in the production of two side bands, each of amplitude 200 V. What is the modulation index ? B. 0.2

C. 0.3

D. 0.4

Answer: D

Watch Video Solution

40. Audio sine waves of 3 kHz frequency are used to amplitude modulate a carrier signal of 1.5 MHz. Which of the following statements are true?

A. The side band frequencies are 1506 KHz

and 1494 KHz

B. The bandwidth required for amplitude

modulation is 6 MHz

C. The bandwidth required for amplitude

modulation is 3 MHz

D. The side band frequencies are 1503 KHz

and 1497 KHz

Answer: D

41. In a diode AM- detector, the output circuit consist of $R = 1k\Omega$ and C = 10pF. A carrier signal of 100kHz is to be detected. Is it good?

A. Yes

B. No

C. Information is not sufficient

D. May or may not detect

Answer: B



42. A modulating signal is a square wave as

shown in the following figure.



While the carrier wave is given by, e = 4 sin (87

 π t) volt. What is the modulation index ?

A. 0.15

B. 0.25

C. 0.35

D. 0.5

Answer: B



43. An audio signal given by $e_1 = 12 \sin 2\pi$ (2000 t) amplitude modulates a sinusoidal carrier wave $e^2 = 50 \sin 2\pi$ (100, 100t). What is the upper side band frequency? A. a. 101 KHz

B. b. 99 KHz

C. c. 100 KHz

D. d. 102 KHz

Answer: D

Watch Video Solution

44. In a diode detector, output circuit consists

of $R = 1M\omega$ and C = 1pF. Calculate the

carrier frequency it can detect.

A. 10 KHz

B. 50 KHz

C. 70 KHz

D. 2 MHz

Answer: D

Watch Video Solution

45. A diode AM detector with the output circuit consisting of $R=1k\Omega$ and $C=1\mu f$

would be more suitable for detecting a carrier

signal of:

A. 10 KHz

B. 0.5 KHz

C.1 KHz

D. 0.75 KHz

Answer: A

46. An amplitude modulated wave is as shown in the figure. What is the percentage of modulation ?



A. 0.5

B. 0.6667

C. 0.45

D. 0.556

Answer: B



47. Compute LC product of a tuned amplifer circuit required to generate a carrier wave of 1MHz for amplitude modulation

A. $2.5 imes 10^{-14}s$

B. $3 imes 10^{-14}s$

C. $1.5 imes 10^{-14}s$

D. $2 imes 10^{-14} s$





48. An oscillator is producing FM waves of requency 2kHz with a variation of 10kHz. What is modulating index?

A. 0.20

B. 5.0

C. 0.67

D. 1.5

Answer: B



49. The frequency of a FM transmitter without signal input is called

A. Lower side band frequency

- B. Upper side band frequency
- C. Resting frequency
- D. Critical frequency

Answer: C



50. In an FM system a 7kHz signal modulates 108MHz carrier so that frequency deviation is 50kHz. The frequency modulation index is

A. 7. 143

B. 8

C. 0.71

D. 350

Answer: A

Watch Video Solution

51. A radiostation has two channels. One is AM at 1020 kHz and the other FM at 89.5MHz. For good results you will use

A. Longer antenna for the AM channel and

shorter for the FM channel

B. Shorter antenna for the AM channel and

longer antenna for the FM channel

C. Same length antenna will work for both

D. Information given is not enough to say

which one to use for which

Answer: B

52. The modulation index of an FM signal is 1.5. The modulating frequency is 5 KHz. What is the maximum frequency deviation ?

A. A. 5 KHz

B. B. 6 KHz

C. C. 7.5 KHz

D. D. 9 KHz

Answer: C

53. In frequency modulation, the frequency of the modulated wave varies as

A. frequency of the modulating wave

B. amplitude of the modulating wave

C. frequency of the carrier wave

D. intensity of the modulating wave

Answer: B

54. Ozone layer blocks the radiaitons of wave length

A. 4500 Å

B. more than 6000 Å

C. less than 3000 Å

D. only between 10 Å to 100 Å

Answer: C

55. The ionosphere consists of the following layer D, E, F_1 and F_2 . Which of these layers are present in the night time ?

A. 1.D,E, F_1

B. 2. E and F_2

C. 3. D and F_2

D. 4. D, F_1, F_2

Answer: B



56. At daytime, the ionosphere oonsists of the

following layers

A. 1. D,E and F_1

B. 2. D, F_1 and F_2

C. 3. D,E, F_1 and F_2

D. 4. E, F_1 and F_2

Answer: C

57. What should be the minimum electron density in the ionosphere, for the sky wave propagation of a 9 MHz signal?

A. $1.5 imes10^{12}\,/\,m^3$

 ${\rm B.}\,10^{12}\,/\,m^3$

C. $0.5 imes10^{12}\,/\,m^3$

D. $0.8 imes 10^{12}\,/\,m^3$

Answer: B



58. What fraction of the surface area of earth can be covered to establish communication by one geostationary satellite ?

A. 1

B. 0.5

C. 0.33

D. 0.2

Answer: C



59. At night time. the following ionospheric layers do not exist.

A. D and F_2

B. E and F_1

C. D and F_1

D. D and E

Answer: C

60. In the night, ionosphere consists of

A. E, F_1 and F_2 layers

B. D,E, F_1 and F_2 layers

C. E and F_2 layers

D. D,E and F_2 layers

Answer: C

61. In short wave communication, waves of which of the following frequencies will be reflected back by the ionoshperic layer having electron density 10^{11} per m^3

A. 2 MHz

B. 10 MHz

C. 12MHz

D. 18 MHz

Answer: A



62. For sky wave propagation of a 10MHz signal, what should be the minimum electron density in ionosphere?

A.
$$pprox 1.2 imes 10^{12}\,/\,m^3$$

B.
$$pprox 10^6\,/\,m^3$$

C.
$$pprox 10^{14}\,/\,m^3$$

D.
$$pprox 10^{22}\,/\,m^3$$

Answer: A



63. In communication with help of antenna if height is doubled then the range covered which gas initially r would become

A. $\sqrt{2}r$

B. 3r

C. 4r

D. 5r

Answer: A


64. The height of a T.V. tower is 300 m. What is the maximum distance upto which T. V. signals can be received ? (R = 6400 km)

A. 50 km

B. 55 km

C. 62 km

D. 75 km

Answer: C

65. Electromagnetic waves of frequencies higher than $9\sqrt{2}$ MHz are found to be not reflected by the ionosphere on a particular day at a place. The maximum electron density in the ionosphere is :

A.
$$\sqrt{2} imes10^{12}\,/\,m^3$$

B. $\sqrt{5} imes10^{12}\,/\,m^3$
C. $2 imes10^{12}\,/\,m^3$

D.
$$3 imes 10^{12}\,/\,m^3$$

Answer: C

Watch Video Solution

66. When microwave signals follow the curvature of earth, this is known as:

A. ionosphere reflection

B. ducting

C. critical velocity

D. modulation

Answer: B

Watch Video Solution

67. Which one of the following statement is wrong ?

A. Radio horizon of the transmitting antenna for space wave is $d_T=\sqrt{2Rh}$,

where R is the radius of the earth and h

is the height of the transmitting antenna. B. Within the skip distance neither the ground waves nor the sky waves are received C. Radiowaves in the frequency range 30 MHz to 60 MHz are called sky waves D. For the propagation of ground waves horizontal aerials are used

Answer: C

68. A tansmitting antenna at the top of a tower has a height 32 m and that of the receiving antenna is 50 m. What is the maximum distance between them for satisfactory communication in line of sight mode ? Given radius of earth is $6.4 \times 10^6 m$.

A. 45.5 km

B. 40.5 km

C. 35 km

D. 32 km

Answer: A

Watch Video Solution

69. A transmitting antenna at the top of a tower has a height of 50 m and the height of the receiving antenna is 32 m. What is the maximum distance between them for satisfactory communication in line of sight mode ?

(Radius of the earth (R) = $6.4 imes10^6$ m) ($\sqrt{10}$

=3.16)

A. 75.5 km

B. 65 .5 km

C. 55 .5 km

D. 45 .5 km

Answer: D



70. The ionosphere is used for the

propagation of

A. sky waves

B. space waves

C. ground waves

D. sound waves

Answer: A

71. In which layer of the atmosphere, the water

vapour is present ?

A. Troposphere

B. Ionosphere

C. Stratosphere

D. Mesosphere

Answer: A

72. What should be the height of transmitting antenna if the T.V. telecast is to cover of a radius of 128km?

Radius of earth $= 6.4 imes 10^6 m$.

A. 256 m

B. 640 m

C. 2500 m

D. 1280 m

Answer: D





73. The ionosphere is used for the propagation of

- A. 1. sky waves
- B. 2. space waves
- C. 3. ground waves
- D. 4. sound waves

Answer: A



74. Which of the following is absorbed by the ozone layer ?

A. Only radiowaves

B. Only visible rays

C. Ultraviolet radiations

D. γ rays

Answer: C

75. In which layer of the atmosphere, the water

vapour is present ?

A. Troposphere

B. Ionosphere

C. Stratosphere

D. Mesosphere

Answer: A

76. In electromagnetic spectrum , the frequencies of α - rays , X - rays and ultraviolet rays are denoted by n_1 , n_2 and n_3 respectively then

A.
$$n_1>n_2>n_3$$

- B. $n_1 < n_2 < n_3$
- C. $n_1 > n_2 < n_3$
- D. $n_1 < n_2 > n_3$

Answer: A

77. What should be the ratio of the critical frequencies for reflection or radiowaves from E and F_1 layers of the ionosphere. If their electrons densities are $2 \times 10^{11}/m^3$ and $3 \times 10^{11}/m^3$ respectively?

A.
$$\sqrt{\frac{1}{2}}$$

B. $\sqrt{\frac{2}{3}}$
C. $\sqrt{\frac{3}{2}}$
D. $\sqrt{\frac{2}{5}}$

Answer: B



78. On a particular day, the maximum frequency reflected from the ionosphere is 10MHz. After 10 days, it increaesed to 11 MHz. What is the ratio of the maximum electron density of the ionosphere on these two days ?

A.
$$\frac{11}{10}$$

B. $\frac{11}{10}$

C.
$$\left(\frac{11}{10}\right)^2$$

D. $\left(\frac{10}{11}\right)^{1/2}$

Answer: C



79. Three waves A,B and C of frequencies 1600 kHz, 5 MHz and 60 MHz, respectively are to be transmitted from one place to another.Which of the following is the appropriate mode of communication?

A. A is transmitted via space wave while B

and C are transmitted via sky space

B. A is transmitted via ground wave, B via

sky wave and C via space wave

C. B and C are transmitted via ground wave

while A is transmitted via sky wave

D. B is transmitted via ground wave while A

and C are transmitted vai space wave

Answer: B



80. Four waves A, B, C, D of frequencies 6 MHz. 8 MHz, 10 MHz and 4 MHz respectively are beamed in the same direction, 10 communicate via sky waves. Which one of these is likely 10 travel the longest distance in the ionosphere before suffering total internal reflection ?

A. A

B. B

D. D

Answer: C

Watch Video Solution

81. A device that converts one from of energy into another form is termed as

A. a transducer

B. a transmitter

C. an amplifier

D. a receiver

Answer: A

Watch Video Solution

82. The outermost layer of the Earth's atmosphere is

A. the stratosphere

B. the mesosphere

C. the troposphere

D. the ionosphere

Answer: D

Watch Video Solution

83. The process of regaining of information from carrier wave at the receiver is termed as

A. Modulation

B. Transmission

C. Propagation

D. Demodulation

Answer: D

Watch Video Solution

84. Line of slight propagation is also called propagation

A. sky waves

B. Ground wave

C. Sound wave

D. Space wave

Answer: D

Watch Video Solution

85. The power radiated by linear antenna of length 'l' is proportional to (λ =wavelength)

A.
$$\frac{\lambda}{l}$$

B. $\left(\frac{\lambda}{l}\right)^2$
C. $\frac{l}{\lambda}$



Answer: D

Watch Video Solution

86. In communication system, the process of superimposing a low frequency signal on a high frequency wave is known as

A. Detection

B. Mixing

C. Modulation

D. Attenuation

Answer: C



87. The maximum frequency of transmitted radio waves above which the radio waves are no longer reflected back by ionosphere is (N = maximum electron density of ionosphere, g = acceleration due to gravity)

A. gN

B. gN^2

C. $g\sqrt{N}$

D. $g^2 N^2$

Answer: C

Watch Video Solution

88. In communication system, the process of superimposing a low frequency signal on a high frequency wave is known as

- A. Repeater
- **B.** Attenuation
- C. Modulation
- D. Demodulation

Answer: C

Watch Video Solution

Test Your Grasp 20

1. Calculate the length of half wave dipole antenna at 30 MHz

A. 10 m

B. 5 m

C. 2.5 m

D. 20 m

Answer: B

2. If both the length of an antenna and the wavelength of the signal to be transmitted are doubled, the power radiated by the antenna

A. is doubled

B. is halved

C. remains the same

D. is quadrupled

Answer: C

3. An 'antenna' is:

A. inductive

B. capacitive

C. resistive above its resonant frequency

D. resistive at resonant frequency

Answer: D

4. If the highest modulating frequency of the wave is 5 kHz, the number of stations that can be accomodated in a 150 kHz bandwidth ?

A. 15

B. 10

C. 5

D. none of these

Answer: A

5. Modulation is the process of superposing

A. high frequency audio signal on low frequency carrier waves B. low frequency radio signals on low frequency audiowaves C. high frequency radio signals on low frequency audiosignal D. low frequency audio signals on high frequency carrier waves

Answer: D



6. A carrier wave of peak voltage 15 V, is used to transmit a message signal. What should be the peak voltage of the modulating signal in order to have a modulation index of 40% ?

A. 5 V

B. 6 V

D. 10 V

Answer: B

Watch Video Solution

7. Which one of the following frequencies will be reflated back by the ionospheric layer having an electron density of 10^{12} per m^3 ?

A. 10MHz

B. 8MHz
C. 6MHz

D. 9MHz

Answer: D



8. Troposphere is used in the propagation of

A. Ground waves

B. Sky waves

C. Space waves

D. Sound waves

Answer: A

Watch Video Solution

9. A ratio has a power of 1kW and is operating at a frequency of 10GHz it is located on a mountain top of beigh 500m The maximum distance upto which it can detect object located on the surface of the earth (Radius of earth $= 6.4 \times 10^6 m$) is A. 80 km

B. 16 km

C. 40 km

D. 64 km

Answer: A

Watch Video Solution

10. The height of a T. V. tower is 75 m. If we want to double its coverage range, then the height of the T. V. tower should be

A. 150 m

B. 300 m

C. 200 m

D. 500 m

Answer: B

Watch Video Solution