PHYSICS

BOOKS - NIKITA PHYSICS (HINGLISH)

COMMUNICATION SYSTEMS

Multiple Choice Questions Elements Of Communication System

1. The original electrical information signal to be transmitted is called as

A. modulating signal

B. base band signal

C. carrier signal

D. information /source signal

Answer: D

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2. Major parts of communications systems are:

A. transmitter and receiver

B. receiver and communication channel

C. transmitter and communication channel

D. transmitter , receiver and communication channel

Answer: D

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3. The waves used in telecommunication are

A. IR

B. UV

C. Microwave

D. Cosmic rays

Answer: C

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4. The velocity of electromagnetic waves depends entirely on the ..... and ..... properties of the medium in which these waves travel.

A. mechanical and electrical properties of the medium

B. thermal properties of the medium

C. electrical and magnetic properties of the medium

D. mechanical and magnetic properties of the medium

Answer: C

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5. In a communication system, noise is most likely to affect the signal

A. at the transmitter

B. in the channel or in the transmission line

C. at the receiver

D. can not be predicted

Answer: B

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6. Electric communication was discovered in which century ?

A. Sixteenth

B. Eighteenth

C. Nineteenth

D. Twentieth

Answer: C

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7. A receiver of communication system consists of

A. detector only

B. amplifier only

C. detector, amplifier and speaker

D. detector, amplifier, speaker and modulator

Answer: C

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8. Recovering information from a carrier is known as

A. demultiplexing

B. demodulation

C. modulation

D. carrier recovery

Answer: B

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9. The message signal is usually of:

A. audio frequency range

B. radio frequency range

C. audio or radio frequency range

D. mixture of both

Answer: A

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10. A microphone converts

A. sound signals into electrical signals

B. electrical signals into sound signals

C. both 'a' and 'b'

D. neigher 'a' nor 'b'

Answer: A

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11. If E and B represent electric and magnetic field vectors of the electromagnetic wave, the

direction of propagation of eletromagnetic wave is along.

A. $\vec{E}$

B. $\vec{B}$

C. $\vec{B} \times \vec{E}$

D. $\vec{E} \times \vec{B}$

Answer: D

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12. Which one of the following has the shortest wavelength ?

A. Infraed rays

B. Ultraviolet rays

C. Microwaves

D. Gamma rays

Answer: D

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13. Communication is the process of

A. keeping in touch

B. exchange information

C. broad casting

D. entertainment by electronics

Answer: B

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14. Which one of the following has the maximum energy ?

A. Radio waves

B. Infrared rays

C. Ultraviolet rays

D. Micro waves

Answer: C

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15. The messages fed to the transmitter are generally

A. radio signals

B. audio signals

C. both 'audio' and 'radio signals'

D. optical signals

Answer: B

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16. The losses in transmission lines are

A. radiation losses only

B. conductor heating only

C. dielectric heating only

D. all of these

Answer: D

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17. Audio frequency range is from

A. 100 Hz to a kHz

B. 20 Hz to 20 kHz

C. 3 KHz to 15 kHz

D. 20 Hz to 2 kHz

Answer: B

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18. The process of changing some characteristic of a carrier wave in accordance with the intensity of the signal is called.

A. amplification

B. rectification

C. modulation

D. demodulation

Answer: C

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19. The oscillating electric and magnetic vectors of an electromagnetic wave are oriented along

A. have the same direction and phase

B. are oriented along mutually perpendicular directions and have the same phase

C. have the same direction but differ in phase by 90°

D. are oriented along mutually perpendicular directions and they have a phase difference of 90°

Answer: B

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20. Basic components of a transmitter are:

A. message signal generator and antenna

B. modulator and antenna

C. signal generator and modulator and antenna

D. message signal generator, modulator and antenna

Answer: D

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21. A digital signal possess

A. continuously verying values

B. only two discrete values

C. only four discrete values

D. only five discrete values

Answer: B

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22. A digital signal-

A. is less reliable than analog signal

B. is more reliable than analog signal

C. is equally reliable as the analog signal

D. not reliable

Answer: B

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23. Modern communication systems use

A. analog circuits

B. digital circuits

C. combination of analog and digital circuits

D. neither 'a' nor 'b'

Answer: B

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Multiple Choice Questions Bandwidth Of Signals

1. The range over which frequencies in an information signal varied is

A. bandwidth

B. power

C. admittance

D. Q- factor

Answer: A

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2. The difference between higher cut off and lower cut off frequency of the information signal is

A. power factor

B. bandwidth

C. conductance

D. Q - factor

Answer: B

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3. In communication system, type of communication channel needed for given signal depends on

A. phase

B. amplitude

C. power

D. bandwidth

Answer: D

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4. For television broadcasting, the frequency employed is normally

A. $30 - 300$MHz

B. $30 - 300$ GHz

C. $30 - 300$ kHz

D. $30 - 300$ Hz

Answer: A

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5. In a communication system, noise is most likely to affect the signal

A. at the transmitter

B. in the channel or in the transmission line

C. in the information source

D. at the receiver

Answer: B

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6. The audio signal

A. can be sent directly over the air for large distance

B. cannot be sent directly over the air for large distance

C. possess very high frequency

D. none of the above

Answer: B

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7. For transmitting audio signal properly

A. it is first superimposed on hight frequency carrier wave

B. it is first superimposed on low frequency carrier wave

C. it is sent directly without superimposing on any wave

D. none of the above

Answer: A

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Multiple Choice Questions Need For Modulation

1. What is the carrier wave? Why high frequency carrier waves are employed for transmission?

A. stationary wave

B. carrier wave

C. modulated wave

D. audio wave

Answer: B

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2. The process of superimposing signal frequency (i.e. audio wave) on the carrier wave is known as

A. modulation

B. demodulation

C. amplification

D. rectification

Answer: A

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3. The process by which some characteristics i.e. amplitude, phase or frequency of hight frequency carrier wave is varied with information signal is

A. demodulation

B. modulation

C. amplification

D. oscillation

Answer: B

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4. The device used for addition of high frequency carrier wave and information signal is

A. amplifier

B. rectifier

C. modulator

D. demodulator

Answer: C

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5. The height of antenna used in communication is

A. equal to wavelength of signal

B. half of wavelength of signal

C. one fourth of wavelength of signal

D. independent on wavelength of signal

Answer: C

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

A. $\left(\frac{l}{\lambda}\right)$

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

C. $\left(\frac{l}{\lambda}\right)^3$

D. $\sqrt{\frac{l}{\lambda}}$

Answer: B

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7. Broadcasting antennas are generally

A. omnidirectional type

B. vertical type

C. horizontal type

D. none of these

Answer: B

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8. An antenna behaves as resonant circuit only when its length is

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

B. $\frac{\lambda}{4}$

C. λ

D. $\frac{\lambda}{2}$ or integral multiple of $\frac{\lambda}{2}$

Answer: D

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9. An antenna is a device

A. converts electromagnetic energy into radio frequency signal

B. converts radio frequency signal into electromagnetic energy

C. converts guided electromagnetic waves into free space electromagnetic waves and vice versa

D. none of these

Answer: C

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10. Audio signal cannot be transmitted because

A. the signal has more noise

B. the signal cannot be amplified for distance communication

C. the transmittig antenna length is very small to design

D. the transmitting antenna length is very large and impracticable

Answer: D

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11. The process of changing some characteristic of a carrier wave in accordance with the intensity of the signal is called.

A. amplification

B. rectification

C. modulation

D. oscillation

Answer: C

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12. If a carrier wave of 1000 kHz is used to carry the signal, the length of transmitting antenna will be equal to -

A. 3 m

B. 30 m

C. 75 m

D. 3000 m

Answer: C

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13. The types of modulation which are possible are-

A. one only

B. two only

C. three only

D. four only

Answer: C

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14. The need for doing modulation is

A. to increase the intensity of audio signal

B. to decrease the intensity of audio signal

C. to transmit audio signal to large distances

D. none of the above

Answer: C

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15. What type of modulation is employed in india for radio transmission

A. Pulse modulation

B. Frequency modulation

C. Amplitude modulation

D. None of these

Answer: C

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16. In modulation we

A. separate the audio frequency signal from the carrier wave

B. superimpose the audio frequency signal over a carrier wave

C. separate the carrier wave from the modulated wave

D. none of the above

Answer: B

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17. The information carrying capacity of carrier wave is directly related to

A. bandwidth

B. amplitude

C. velocity

D. phase

Answer: A

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Multiple Choice Questions Production And Detection Of Amplitude Modulated Wave

1. The process in which amplitude of the high frequency carrier wave changes accordance with the instantaneous value of modulated signal is

A. amplitude modulation

B. Frequency modulation

C. phase modulation

D. power modulation

Answer: A

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2. The process in which frequencies of carrier wave changes in accordance with instantaneous value of modulated signal is

A. amplitude modulation

B. frequency modulation

C. phase modulation

D. power modulation

Answer: B

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3. The process in which phase of carrier wave changes in accordance with instantaneous value of modulated signal is

A. amplitude modulation

B. frequency modulation

C. phase modulation

D. power modulation

Answer: C

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4. Frequency modulation and phase modulation together is referred as

A. amplitude modulation

B. angle modulation

C. power modulation

D. wave modulation

Answer: B

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5. The ratio of peak value of modulated signal to peak value of carrier signal is

A. refractive index

B. modulation index

C. demodulation index

D. none of these

Answer: B

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6. To avoid distortion in the signal, modulation index should be

A. less than 1

B. greater than 1

C. equal to 1

D. less than or equal to 1

Answer: D

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7. In amplitude modulation, the bandwidth is

A. equal to frequency of modulated signal

B. double the frequency of modulated signal

C. half of frequency of modulated signal

D. none of these

Answer: B

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8. The process of recovering the audio signal from the modulated wave is known as

A. amplification

B. oscillation

C. rectification

D. demodulation

Answer: D

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9. An electronic device which recovers the original audio signal from amplitude modulated wave is

A. modulator

B. rectifier

C. amplifier

D. detector

Answer: D

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10. Which of the following is application of amplitude modulation ?

A. amplitude modulation radio brodcasting

B. T.V. picture (video)

C. air craft

D. all of these

Answer: D

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11. Citizen's band ratio is the application of

A. amplitude modulation

B. frequency modulation

C. phase modulation

D. none of these

Answer: A

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12. Draw backs of Amplitude modulation

A. low effeciency

B. noise reception

C. operating range is small

D. all of these

Answer: D

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13. In an amplitude modulated wave for audio frequency of $500 \text{cycle} / \text{sec} ond$,the appropriate carrier frequency will be

A. 50 cycles/s

B. 100 cycle/s

C. 500 cycle/s

D. $50,000$ cycles/s

Answer: D

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14. Amplitude modulation is useful for broadcasting in communication systems because

A. it is more noise immune than other other modulation systmes

B. it requires less transmitting power compared with other systems

C. its use avoids receiver complixity

D. no other modulation system can provide the necessary bandwidth faithful transmission

Answer: C

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15. 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

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16. Sinusoidal carrier voltage of frequency $1.5MHz$ and amplitude $50V$ is amplitude modulated by sinusoidal voltage of frequency $10kHz$ producing $50\,\%$ modualtion. The lower and upper side-band frequencies in kHz are

A. $1490, 1510$

B. $1510, 1490$

C. $\frac{1}{1490}, \frac{1}{1510}$

D. $\frac{1}{1510}, \frac{1}{1490}$

Answer: A

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17. What is the modulation index of an over modulated wave

A. 1

B. zero

C. < 1

D. > 1

Answer: D

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18. What type of modulation is employed in india for radio transmission

A. amplitude modulation

B. frequency modulation

C. pulse modulation

D. none of these

Answer: A

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19. If audio signal is tranmitted directly into space, the length of the transmitting antenna required will be

A. extremely small

B. extremely large

C. infinitely large

D. zero

Answer: B

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20. In amplitude modulation

A. only the amplitude is changed but frequency remains same

B. both the amplitude and frequency shcange equally

C. both the amplitude and frequency change unequally

D. none of the above

Answer: A

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21. Modulation factor determines-

A. only the strength of the transmitted signal

B. only the quality of the transmitted signal

C. both the strength and quality of the signal

D. none of the above

Answer: C

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22. Degree of modulation-

A. can take any value

B. should be less than 100%

C. should exceed 100%

D. none of these

Answer: B

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23. The AM wave is equivalent to the summation of

A. two sinusoidal waves

B. three sinusoidal waves

C. four sinusoidal waves

D. none of these

Answer: B

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24. The AM wave contans three frequencies viz:

A. $\frac{f_c}{2}, \frac{f_c + f_s}{2}, \frac{f_c - f_s}{2}$

B. $2f_c, 2(f_c + f_s), 2(f_c - f_s)$

C. $f_c, (f_c + f_s), (f_c - f_s)$

D. f_c, f_c, f_c

Answer: C

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25. In AM waves, the amplitude of each side band frequency is

A. E_c

B. mE_c

C. $\frac{mE_c}{2}$

D. 2mE

Answer: C

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26. Which of the following is/are the limitations of amplitude modulation?

A. clear reception

B. high effeciency

C. small operating range

D. good audio quality

Answer: C

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27. The process of recovering the audio signal from the modulated wave is known as

A. amplification

B. rectification

C. modulation

D. demodulation

Answer: D

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28. The frequency above which radiation of electrical energy is practical is

A. 0.2 kHz

B. 2 kHz

C. 20 kHz

D. 20 Hz

Answer: C

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29. What is the band width in amplitude modulation ?

A. Equal to audio signal frequency

B. Two times the audio signal frequency

C. Half the signal frequency

D. None of the above

Answer: B

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30. For a carrier frequency of 100 kHz and a modulating frequency of 5kHz what is the width of AM transmission-

A. 5 kHz

B. 10 kHz

C. 20 kHz

D. 200 kHz

Answer: B

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31. The carrier frequency generated by a tank circuit containing $1nF$ capacitor and $10\mu H$ inductor is

A. 1592 Hz

B. 1592 MHz

C. 1592 kHz

D. 159.2 Hz

Answer: C

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Multiple Choice Questions Space Communication

1. The air of earth's atmosphere responsible for absorbing a large portion of ultraviolet radiations by the sun is

A. Ionosphere

B. Ozone layer

C. Troposphere

D. Thermosphere

Answer: B

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2. Height of ionosphere is ... km from ground surface.

A. 12 km

B. 80 km

C. 400 km

D. 50 km

Answer: C

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3. One way communication is called

A. half duplex

B. full duplex

C. mono-communication

D. simplex

Answer: D

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4. The region that contains free electrons, negative ions and positive ions is

A. isosphere

B. mesosphere

C. ionosphere

D. stratosphere

Answer: C

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5. Electromagnetic waves of frequency ..... are reflected from ionosphere.

A. 100 MHz

B. 2 MHz to 30 MHz

C. upto 1.5 MHz

D. less than 1.5 MHz

Answer: B

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6. Because of tilting, which waves finally disappear?

A. Space waves

B. Microwaves

C. Sky waves

D. Surface waves

Answer: D

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7. Temperature of troposphere decreases ..... $\hat{}\ (\circ)C/k$.m.

A. 100

B. 50

C. 10

D. 6

Answer: D

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8. When an electromagnetic wave entres an ionised layer of enrth's aatmosphere present in ionospher

A. the electron cloud will not oscilate in the electric field of the wave

B. the electron could will oscillate in the electric field of wave in the phase of sinusoidal electromagnetic wave

C. the electron clould will oscillate in the electric field of wave in the opposite

phase of sinusoidal electromagnetic wave

D. the electron cloud will oscillate in the electric fileld of wave with a phase retardation of 90° for a sinusoidal electromagnetic wave.

Answer: D

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9. In which of the region of earth's atmosphere temperature decreases with height?

A. Ozone layer

B. Ionosphere

C. Mesosphere

D. Ozone layer

Answer: C

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10. In earth's atmosphere for F_1-layer , the virutal height and critical frequency are

A. $150 \text{ km and } 3MHz$

B. $160 \text{ km and } 4MHz$

C. $170 \text{ km and } 4.5MHz$

D. $180 \text{ km and } 5MHz$

Answer: D

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11. In earth's atmosphere , for F_2 - layer, the virtual height and critical frequency in night time are

A. 210 km and 5 MHz

B. 250 km and 6 MHz

C. 280 km and 7 MHz

D. 350 km and 6 MHz

Answer: D

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12. As the height of satellite orbit gets lower, the speed of the satellite

A. increases

B. decreases

C. constant

D. both 'a' and 'b'

Answer: A

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13. An electron oscillating with a frequency of 3×10^6 Hz, would generate -

A. X - rays

B. ultraviolet rays

C. radio waves

D. microwaves

Answer: C

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14. If three wave no atmosphere, the average temperature on the surface of earth would be :-

A. lower

B. same as now

C. higher

D. zero

Answer: A

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15. When an electromagnetic waves enter the ionised layer of ionosphare, the motion of electron cloud produces a spece current and the electric field has its own capacitative displacement current , then

A. the space current is in phase of displacement current

B. the space current lags behind the displacement current by a phase 180°.

C. the space current lags behind the displacement current by a phase 90°.

D. the space current leads the displacement current by phase 90°

Answer: A

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16. Ultraviolet spectrum can be studied by using a

A. flint glass prism

B. direct vision prism

C. nicol prism

D. quartz prism

Answer: D

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17. When electromagnetic waves enter the ionised layer of ionosphere, then the relative

permittivity i.e. dielectric constant of the ionised layer

A. does not change

B. appears to increase

C. appears to decrease

D. sometimes appears to increase and sometimes to decrease

Answer: C

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18. The absorption of radiowaves by the atmosphere depends upon

A. their velocities

B. their frequencies

C. their distance from the transmitter

D. none of the above

Answer: B

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19. The ozone layer in the atmosphere absorbs

A. only the radiowaves

B. only the visible light

C. only the Y rays

D. X - rays and ultraviolet rays

Answer: D

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20. Out of the following the radiation with lowest frequency is

A. Visible light

B. X - rays

C. Microwaves

D. Ultraviolet rays

Answer: C

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21. Height of troposphere from ground surface is ..... km.

A. $12km$

B. $80km$

C. $400km$

D. $50km$

Answer: A

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22. A man can take pictures of those objects which are not fully visible to the eye using camera films acceptable to

A. ultraviolet

B. infrared

C. visible light

D. radio waves

Answer: B

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23. Troposphere reflect the waves having frequency from .....

A. 100 MHz to 200 MHz

B. 500 KHz to 1500 KHz

C. 0 Hz to 20 kHz

D. 20 Hz to 20 kHz

Answer: B

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24. Clouds and water vepours are present in the layer of atmosphere called as

A. troposphere

B. ionosphere

C. stratosphere

D. mesosphere

Answer: A

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25. The EM waves when travel into different medium gets

A. refracted

B. transmitted

C. reflected

D. emitted

Answer: A

Watch Video Solution

26. Ultraviolet radiations is absorbed by:

A. troposphere

B. ionosphere

C. stratosphere

D. mesosphere

Answer: C

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27. Speed of electromagnetic waves is given

A. $c = \frac{1}{\sqrt{\mu_0 \varepsilon_0}}$

B. $c = \sqrt{\mu_0 \varepsilon_0}$

C. $c = \frac{1}{\mu_0 \varepsilon_0}$

D. $c = \mu_0 \varepsilon_0$

Answer: A

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28. In space communication, the sound waves can be sent from one place to another

A. through space

B. through wires

C. by superimposing it on undamped electromagnetic waves

D. by superimposing it on damped electromagnetic waves.

Answer: C

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29. A.F.M. radio transmitter uses a tower of height 60 m for its antenna What is the maximum distance covered by the transmitter

A. $25km$

B. 27.71 km

C. 28.71 km

D. 40 km

Answer: B

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30. The electromagnetic waves of frequency $2MHz$ and $30MHz$ are

A. in ground wave propagation

B. in sky wave propagation

C. in microwave propagation

D. in satellite communication

Answer: B

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31. Ground wave propagation is suitable for

A. high frequencies

B. very short wavelengths

C. low frequencies

D. T.V. signals

Answer: C

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32. Long distance short-wave radio broadcasting uses

A. ground wave

B. ionospheric wave

C. direct wave

D. sky wave

Answer: B

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

A. space wave propagation

B. ground wave propagation

C. sky wave propagation

D. tropospheric communication

Answer: B

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34. Through which mode of propagation, the radio waves can be sent from one place to another

A. ground wave propagation

B. sky wave propagation

C. space wave propagation

D. all of them

Answer: D

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35. In space communcation , the information can be passed from on place to another at a distance of 100 km in

A. $1s$

B. 0.5 s

C. 0.03 s

D. none of these

Answer: D

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36. What will be the area of reception of the signals transmitted by the TV antenna of length 300 m and radius of earth is 6400 km ?

A. $12058 \quad \mathrm{km}^2$

B. $300\mathrm{km}^2$

C. $500 \quad \mathrm{km}^2$

D. $1258 \quad \mathrm{km}^2$

Answer: A

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37. The sky wave propagation is suitable for radiowaves of frequency

A. upto 2 MHz

B. from 2 MHz to 20 MHz

C. from 2 MHz to 30 mHz

D. none of these

Answer: C

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38. The polarisation of an electromagnetic wave is determined by

A. the directions of electric and magnetic field

B. the directions of electric field

C. direction of magnetic field

D. can not be polarized

Answer: B

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39. Frequencies in the UHF range normally propagate by means of:

A. ground waves

B. space waves

C. sky waves

D. Surface waves

Answer: C

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40. An antenna is a device

A. that converts electromagnetic energy into ratio frequency signal

B. that converts radio frequency signal into electromagnetic energy

C. that converts guided electromagnetic waves into free space electromagnetic waves and vice - versa

D. none of these

Answer: C

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41. The frequency of signals up to 1.5 MHz can be propagated using

A. ground wave propagation

B. space wave propagation

C. sky wave propagation

D. satellite communication

Answer: A

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42. Space wave propagation is used in

(a) microwave communication

(b) satellite communication

(c) TV transmission

A. only television communication

B. only radar communication

C. only microwave communication

D. all of these

Answer: D

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43. The Ionosphere reflects the

A. ground waves

B. sky waves

C. space waves

D. very high or ultra high frequency waves

Answer: B

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44. Which of the following is not a transmission media used in communication system ?

A. 2 - wire line

B. fax

C. coaxial cable

D. fibre cable

Answer: B

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45. In which frequency range, space waves are normally propagated?

A. HF

B. VHF

C. UHF

D. SHF

Answer: C

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46. While tuning in a certain broad cast station with a receiver, we are actually

A. varying the local oscillator frequency

B. varying the frequency of the ratio signal to be picked up

C. tuning the antenna

D. none of these

Answer: A

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47. If the frequency of E.M radiations is halved then the energy of EM radiation wil become

A. double

B. remains unchanged

C. becomes half

D. becomes one fourth

Answer: C

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48. The frequency of a wave propagating in D-region having refractive index of 0.5 is

A. 420 kc/s .

B. 300 kc/s.

C. 207.33 kc/s.

D. none of these

Answer: C

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49. The ground wave communication cannot be occur above a distance of

A. $200km$

B. $10km$

C. $400km$

D. $500km$

Answer: B

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50. Modern is a device which performs

A. modulation

B. demodulation

C. rectification

D. modulation and demodulation

Answer: D

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51. For the propagation of ground the aerials must be

A. vertical

B. horizontal

C. inclined at 45° to the horizontal

D. none of the above

Answer: A

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52. Audio signals cannot be directly transmitted into to space because

A. audio signals can't propagate through air

B. audio signals are high frequency signal

C. audio signals need some external help for propagation

D. a very high antenna is needed for their propagation

Answer: D

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53. Microwaves are the electromagnetic waves with frequency, in the range of

A. Micro hertz

B. Giga hertz

C. Mega hertz

D. Hertz

Answer: B

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54. In short wave communication waves of which of the following frequencies will be

reflected back by the ionospheric layer, having electron density $10^{12} perm^3$

A. 2 MHz

B. 10 MHz

C. 12 MHz

D. 18 MHz

Answer: A

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55. To an observer on the earth the stars appear to twinkle. This can be ascribed to

A. the stars do not emit the light continuously

B. the absorpation of some frequencies in the light emitted by the star in the earth's atmosphere

C. there is a Doppler effect

D. of the fluctuations in the refractive index in the earth's atmosphere

Answer: D

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56. The maximum distance upto which TV transmission from a TV tower of height h can be received is proportional to

A. $h^{1/2}$

B. h

C. $h^{3/2}$

D. h^2

Answer: A

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57. A geosynchronous satellite is

A. located at a height of 34860 km to ensure global coverage

B. appears stationary over a place on earth's magnetic pole

C. not really stationary at all , but orbits the earth within 24 hours.

D. always at fixed location in space and simply spins about its own axis

Answer: C

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58. Antennas are used to receive and transmit

A. mechanical waves

B. electromagnetic waves

C. ultrasonic waves

D. de Broglie waves

Answer: B

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Multiple Choice Questions Examples For Practice

1. In an optical fibre ,the refractive index of the core material is

A. less than R.I. of cladding

B. more than R.I. of cladding

C. equal to R.I. of cladding

D. halfed to R.I. of cladding

Answer: B

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2. If μ_1 and μ_2 are the refractive indices of the materials of core and cladding of an optical fibre, then the loss of light due to its leakage can be minimized by having

A. $\mu_1 > \mu_2$

B. $\mu_1 < \mu_2$

C. $\mu_1 \leq \mu_2$

D. $\mu_1 = \mu_2$

Answer: A

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3. Global communication is achieved by using

A. signal geostationary satellite

B. minimum two geostationary satellite 180° apart

C. minimum three geostationary satellite 120° apart

D. minimum four geostationary satellites 90° apart

Answer: C

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4. If a carrier wave of 1000 kHz is used to carry the signal, the length of transmitting antenna will be equal to -

A. 3 m

B. 30 m

C. 75 m

D. 3000 m

Answer: C

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5. In which layer of the atmosphere, the water vapour is present ?

A. stratosphere

B. mesosphere

C. troposphere

D. ionosphere

Answer: C

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6. In Laser communication there is

A. low loss of signal

B. loss of signal

C. no signal security

D. low band width

Answer: A

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7. In electromagnetic spectrum, the frequencies of γ-rays and $X-$ 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

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

A. demodulation

B. modulation

C. attenuation

D. amplification

Answer: A

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