

PHYSICS

BOOKS - PUNJAB BOARD PREVIOUS YEAR PAPERS

Principles of communication

Exercise

1. A carrier frequency of a station is 50MHz. A

resistor of $10K\Omega$ and a capacitor of 10 pF are

available in detector circuit. Is it good enough for detection?



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2. In a diode detector, output circuit consists of a resistor of $10M\Omega$ and a capacitor of 1pF.Calculate the carrier frequency it can detect.



3. 600 Hz modulating voltage fed into FM generator produces a frequency deviation of 3.36 KHz. Find the modulation index.



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4. A transmitting antenna at the top of a tower has a height 16m and the height of receiving antenna is 25m.What is the maximum distance between them for

satisfactory communication in LOS mode? Given radius of earth is $6.4 imes 10^6 m.$



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5. A transmitting antenna at the top of a tower has a height 40m and the height of receiving antenna is 60m.What is the maximum distance between them for satisfactory communication in LOS mode? Given radius of earth is $6.4 \times 10^6 m$.



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



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7. What should be the length of dipole antenna for a carrier wave of frequency

 $6 \times 10^{8} Hz$?



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8. What should be the length of dipole antenna for a carrier wave of frequency $8 \times 10^8 Hz$?



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9. What should be the length of dipole antenna for a carrier wave of frequency $12 \times 10^8 Hz$?



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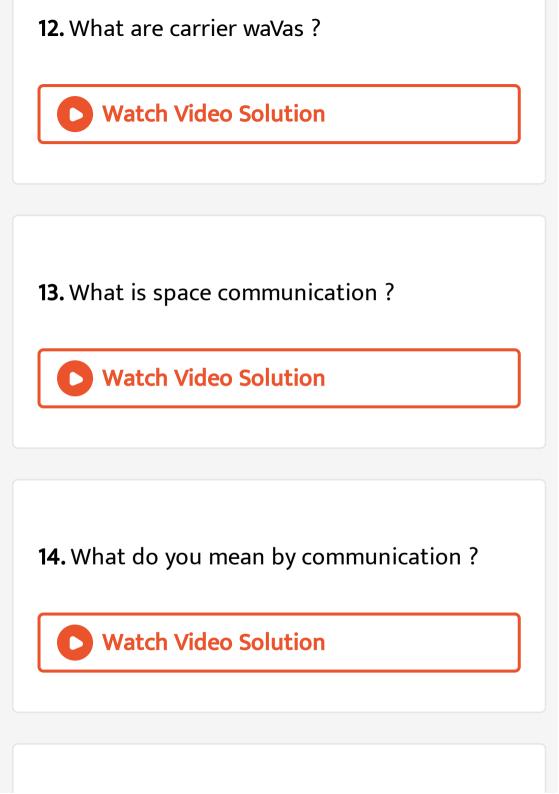
10. What is a modulator?

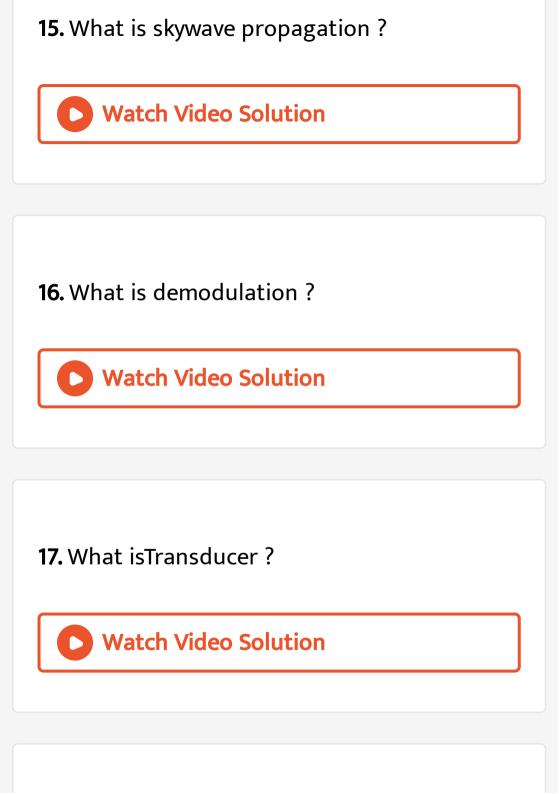


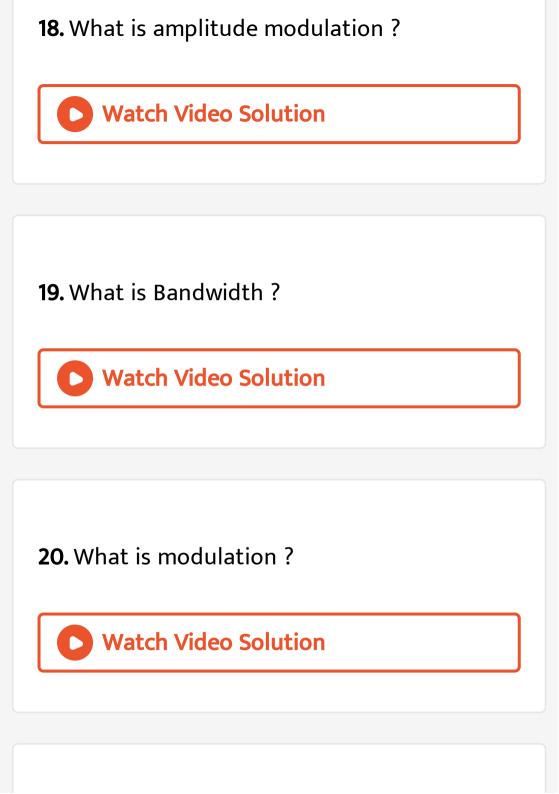
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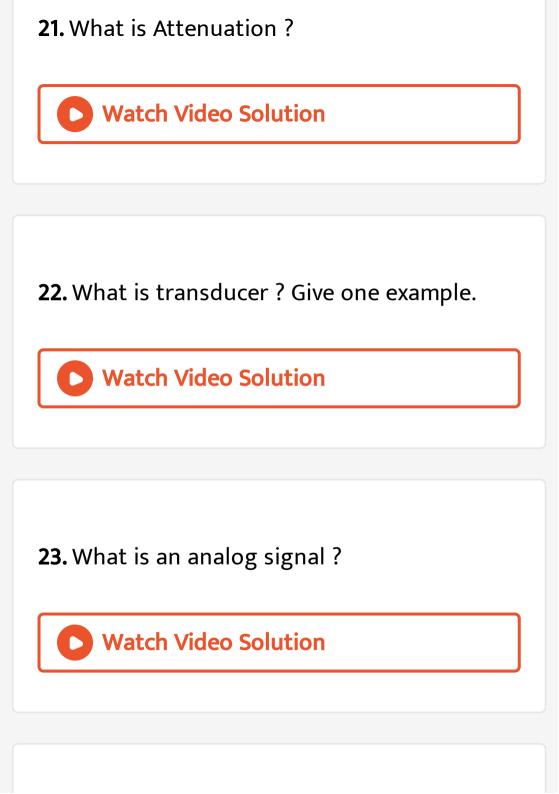
11. What is a demodulator?











24. What is modulated wave?



25. What is Attenuation?



26. Name the three basic elements of a communication system.



27. What is function of transducer?



28. What is the maximum frequency which can be transmitted by ground waves ?



29. Define modulation index



30. Define amplitude modulation.



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31. Give the basic function of antenna.



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32. Give the basic function of transducer.



33. Sky wave propagation is also called . (Choose Correct Option)

- A. Tropospheric Wave Propagation
- B. Ionospheric Wave Propagation
- C. Satellite Communication
- D. None of these

Answer:



34. What is skywave propagation?



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35. Draw a labelled circuit diagram for the detection (demodulation) of amplitude modulated waves.



36. Explain space wave propagation of radiowaves.



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37. Draw a labelled block diagram of a basic communication system.



38. Explain skywave propagation of radiowaves.



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39. Draw a labelled circuit diagram for the detection (demodulation) of amplitude modulated waves.



40. Explain the term ground waves propagation of radio-waves.



41. What is ozone layer? Give its importance.



42. What is communication satellite?



43. Explain sky wave propagation of radiowaves.



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44. Draw the circuit diagram for an amplitude modulator.



45. Explain space wave propagation of radio waves.



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46. What is space wave propagation? Why is it limited upto small distance over earth's surface?



47. What is the need for modulation?



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48. Why audio signals cannotbe transmitted directly into space ?



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49. Explain basic elements of communication system with the help of block diagram.



50. Explain space wave propagation.



51. Explain sky wave propagation of radiowaves.



52. What is the need for modulation?



53. What are the limitations of amplitude modulation?



54. Draw a labelled block diagram of a basic communication system.

55. Give one difference between point to point mode of communication and broadcast mode of communication. Give one example of each mode of communication.



56. Why is ground wave propagation not suitable for high frequency?





57. What is the need for modulation?



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58. Draw a labelled block diagram of a basic communication system.



59. What is the modulation? What is need for modulation?



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60. Explain why sky wave propagation is not possible for high frequency radiowaves ?



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61. What is the need for modulation?



62. Why sky waves are not used in transmission of TV signals?



63. Explain sky wave propagation of radiowaves.



64. Explain the term ground waves propagation of radio-waves.



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65. Explain space wave propagation of radiowaves.



66. Why sky waves are not used in transmission of TV signals?



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67. What is difference between sky wave propagation and space wave propagation?



68. Why are short waves used in long distance broadcasts?



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69. Explain why sky wave propagation is not possible for high frequency radiowaves ?



70. What is space wave propagation? Give one example of communication system, which use space wave mode.



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71. Write any two factors, which justify the need of modulation for the transmission of the audio signals.



72. Explain ground wave propagation of radiowaves.



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73. What is the need for modulation of a signal? Give two reasons.



74. Draw a labelled block diagram of a basic communication system.



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75. Define modulation. What is its need?

