



PHYSICS

BOOKS - PUNJAB BOARD PREVIOUS YEAR PAPERS

Electromagnetic Waves

Exercise

1. Find the wavelength of electromagnetic waves of frequencies $4 \times 10^{17} \text{ Hz}$ in free

space. Write its two applications.



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2. Find the wavelength of electromagnetic waves of frequency $5 \times 10^{19} \text{ Hz}$ in free space.

Give its two applications



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3. Find the wavelength of electromagnetic waves of frequency $6 \times 10^{12} \text{ Hz}$ in free space.

Give its two applications.



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4. Give the ratio of velocities of light rays of wave length 4000Å and 6000Å in vacuum.



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5. Write two applications of Infra-red waves.



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6. Can an electromagnetic wave be deflected by a magnetic field ? Explain.



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7. Write two applications of gamma (γ)-rays.



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8. Can an electromagnetic wave be deflected by an electric field explain?



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9. Write two applications of Ultra-Violet rays.



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10. Can an electromagnetic wave be deflected by a magnetic field ? Explain.



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11. Name the electromagnetic radiations used for viewing the objects or to take the photograph through haze and fog.



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12. Which physical quantity if any has the same value for waves belonging to the different parts of the electromagnetic spectrum?



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13. If the earth did not have atmosphere, would its average surface temperature be higher or lower than what it is now?



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14. Which of the following has shortest frequency-Microwaves, X-Rays, Ultraviolet rays?



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15. Which of the following has shortest wavelength Radio waves, red light, Ultraviolet rays ?



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16. arrange the following radiations in descending order of wavelength : Radiowaves, X rays, UV rays, visible light



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17. Write the following radiations in ascending order of wavelength microwaves, gamma rays, radio waves, uv light.



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18. Write the following radiations in an ascending order in respect of their frequencies : X-rays, microwaves, UV (ultra-violet) rays and radio waves.



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19. Write the following radiations in a descending order of their frequencies: red light, X-rays, microwaves, radio-waves.



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20. Arrange the following radiations in the descending order of wavelength: X-rays, radio waves, yellow light, infra-red rays.



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21. What do you mean by displacement current ?



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22. Draw the shape of electromagnetic waves.



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23. Are matter waves, electromagnetic ? Write yes or no.





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24.was the first scientist who produced electromagnetic waves in a laboratory.



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25.was the first scientist who produced electromagnetic waves in a laboratory.



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26. Arrange the following electromagnetic (e.m.) radiations in the increasing order of wavelength..... Infrared waves, Gamma rays, radiowaves, microwaves.



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27. What are electromagnetic waves ? Write four characteristics of these waves.



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28. What are electromagnetic waves ? Write four characteristics of these waves.



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29. What are electromagnetic waves ? Write four characteristics of these waves.



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30. What is displacement current?



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31. Define Green House effect.



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32. What are microwaves? give their any one use.



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33. State any four properties of electromagnetic waves.



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34. What are x-rays ? How do they differ from electrons ?



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35. What are electromagnetic waves ? Write four characteristics of these waves.



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36. What are electromagnetic waves?



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37. What are electromagnetic waves ? Write four characteristics of these waves.



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38. Write two uses of each of the following :

Radiowaves



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39. Write two uses of each of the following :

Microwaves.



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40. What are electromagnetic waves ? Write four characteristics of these waves.



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41. Write two uses of each of the following :
Microwaves.



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42. Write one use of each of the following :
infrared waves



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43. Write one use of each of the following :UV
radiation



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44. Write one use of each of the following
:gamma rays



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45. What are electromagnetic waves ? Write four characteristics of these waves.



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46. What do you mean by displacement current ?



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47. State any four properties of electromagnetic waves.



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48. Write two properties and two uses of microwaves.



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49. Give the source of production of X-rays.



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50. Give two uses of microwaves.



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51. The small ozone layer on top of the stratosphere is crucial for human survival. Why ?



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52. Write two applications of gamma (γ)-rays.



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53. Give two uses of microwaves.



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54. Write two applications of Infra-red waves.



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55. Write two applications of Infra-red waves.



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56. What are electromagnetic waves ? Explain with the help of diagram.



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57. Give two properties and two uses of X-rays.



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58. State any four properties of electromagnetic waves.



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59. Write two uses of X-Rays.



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60. Write two uses of infra red rays.



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61. Write four uses of ultraviolet rays.



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62. State essential properties of e.m. waves.



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63. Write four properties of X-rays.



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64. What is displacement current?



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65. Give two characteristics of electromagnetic waves.



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66. Write four uses of ultraviolet rays.



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67. The small ozone layer on top of the stratosphere is crucial for human survival. Why ?



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68. Microwaves are used in RADAR, why ?



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69. Give two characteristics of electromagnetic waves.



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70. What are X-rays ? Give their two uses.



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71. What are infra-red rays ? Give their two uses.



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72. What are ultraviolet rays ? Give their two uses.



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73. Write two uses of infra red rays.



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74. Write two uses of Radiowaves.



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75. Write two uses of 'X' rays.



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76. What are microwaves? give their any one use.



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