



PHYSICS

BOOKS - BETTER CHOICE PUBLICATION

ELECTROMAGNETIC WAVES

Very Short Answer Type Questions 1 Mark

1. Arrange the following in the order of increasing frequency : Infra red rays, Gamma rays, X-rays.



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2. What is the ratio of speed of infrared rays and ultraviolet rays in vacuum?



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3. Arrange the following in the order of decreasing wavelength:

Microwaves, X-rays, Ultraviolet rays



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4. Arrange the following metals in the increasing order of reactivity.



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5. What is the wavelength range of visible part of electromagnetic spectrum?



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6. What are γ -rays?



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7. State two applications of infra-red radiations.



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8. State two applications of ultra-violet radiations.



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9. Write two applications of microwaves.



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10. What are electromagnetic waves?



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11. Arrange the following in the order of increasing frequency : Infra red rays, Gamma rays, X-rays.



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12. State two characteristics of an electromagnetic waves.



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13. Write two properties of X-rays.



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



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15. Why are electromagnetic waves called so?



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16. Arrange the following in decreasing order of their frequencies : Visible light, Radiowaves and Infrared rays.



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17. Can an electromagnetic wave be deflected by magnetic or electric field ? Explain your answer.



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18. Write the two applications of Gamma rays.



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19. Can an electromagnetic wave be deflected by magnetic or electric field? Explain your answer.



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20. Can an electromagnetic wave be deflected by magnetic or electric field ? Explain your answer.



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



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22. When can a charge act as a source of electromagnetic wave? How are there directions of electric and magnetic field vectors, in an electromagnetic wave related to each other and to the direction of propagation of the wave?

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



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23. 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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24. Which of the following has the longest wavelength ?



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25. Which of the following has shortest frequency?

X-rays, microwaves and ultra-violet rays.



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26. Arrange the following radiations in descending order of wavelength.



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27. Arrange the following radiations in descending order of wavelength.



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28. Write the following radiations in an ascending order in respect of their frequencies: X-rays, microwaves, ultra-violet rays and radiowaves.



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29. Write the following radiations in a descending order of frequencies

red light, X-rays, microwaves, radio-waves.



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30. Arrange the following radiation in the descending order of wavelength :X-ray,infrared ray ,red light ,yellow light ,radio waves.



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



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Short Answer Type Questions 2 Mark

1. State the characteristics of e.m. waves.



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2. Discuss the history of em waves brief.



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3. Explain with the help of a diagram, Hertz experiment for the production of electromagnetic waves.



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4. What are X-rays? Write their two uses.



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5. What are microwaves? Write their two uses.



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6. What are radiowaves? Give their two uses.



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7. What does an electromagnetic wave consist of? On what factors does its velocity in vacuum depend?





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8. Can an electromagnetic wave be deflected by magnetic or electric field? Explain your answer.



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9. Prove that electromagnetic waves are transverse in nature.



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10. Define Green House effect.



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11. Define Green House effect.



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12. What is Maxwell's displacement current?



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13. State any four properties of electromagnetic waves.



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14. What are X-rays? How do they differ from electrons?



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15. Write the two uses of each of the following
Radiowaves



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16. Write the two uses of each of the following

Microwaves



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17. Write the one uses of each of the following

:

Microwaves



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18. Write the one uses of each of the following

:

Infrared waves



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19. Write the one uses of each of the following

:

UV radiations



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20. Give two uses each of the following:

Gamma rays



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21. Write two properties and two uses of
microwaves



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22. Write two properties and two uses of microwaves



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23. What are microwaves? Write their two uses.



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24. Answer the following questions

The small ozone layer on top of the

stratosphere is crucial for human survival.

Why?



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25. Give two uses of Gamma rays.



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26. Give two uses of infrared rays.



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27. Write four uses of ultraviolet rays



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



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29. Write two properties of X-rays.



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Short Answer Type Questions 3 4 Mark

1. Give two properties and four uses of X-rays?



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2. Give two peroperties and four uses of infra-red rays?



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3. Give two properties and four uses of ultraviolet rays?



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4. What are electromagnetic waves?



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5. Give two properties of electromagnetic waves.



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6. Write two uses of X-rays.



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7. Give two uses of infrared rays.



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8. What are electromagnetic waves?



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Numericals

1. Find the wavelength of electromagnetic waves of frequencies 4×10^{17} Hz in free space. Give its two applications.



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2. Find wavelength of electromagnetic waves of frequency $5 \times 10^{19} Hz$ in free space. Give its two applications.



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



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4. Give the ratio of velocities of light rays of wavelength 4000\AA and 6000\AA in vacuum.



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