

Electromagnetic Waves-L3



1. Which rays of the EM spectrum is responsible for Green House Effect?

- A. Infrared rays
- B. Ultraviolet rays
- C. X-rays
- D. Radio-waves

2. In electromagnetic wave, the phase difference between electric and magnetic field vectors, \vec{E} and \vec{B} respectively is :

- A. 0
- B. $\pi/2$
- C. π
- D. $\pi/4$

3. Which of the following rays is not an electromagnetic wave?

- A. β -rays
- B. Heat rays
- C. X-rays
- D. γ -rays

4. The condition under which a microwave oven heats up a food item containing water molecules most efficiently is -

- A. Frequency of the microwaves \geq Resonant frequency of the water molecules
- B. Frequency of the microwaves $<$ Resonant frequency of the water molecules
- C. Frequency of the microwaves $=$ Resonant frequency of the water molecules
- D. Frequency of the microwaves $>$ Resonant frequency of the water molecules

5. For the Faraday's law of electromagnetic induction,

$$\oint \vec{E} \cdot d\vec{l} = -\frac{d\phi_B}{dt}$$

Which relation between electric force \vec{F} on a charge q and electric field \vec{E} of the given equation is true?

- A. $\vec{F} \geq q\vec{E}$
- B. $\vec{F} = q\vec{E}$
- C. $\vec{F} > q\vec{E}$
- D. $\vec{F} < q\vec{E}$

1. (A)
2. (A)
3. (A)
4. (C)
5. (B)