

Electromagnetic Waves - Practice Questions

Multiple Choice Questions:

1. Electromagnetic waves travel at speed: (a) sound (b) light (c) electron (d) proton - Answer: (b)
2. EM waves consist of: (a) electric field only (b) magnetic field only (c) both electric and magnetic fields (d) none - Answer: (c)
3. Direction of EM wave propagation is: (a) parallel to E (b) parallel to B (c) perpendicular to both E and B (d) random - Answer: (c)
4. Unit of wavelength is: (a) meter (b) second (c) Hertz (d) Joule - Answer: (a)
5. Frequency is measured in: (a) meter (b) Hertz (c) Joule (d) Volt - Answer: (b)
6. Relation between speed, frequency, wavelength: (a) $v=f\lambda$ (b) $v=f+\lambda$ (c) $v=f/\lambda$ (d) $v=\lambda/f$ - Answer: (a)
7. Light is an example of: (a) mechanical wave (b) EM wave (c) sound wave (d) water wave - Answer: (b)
8. EM waves can travel in: (a) vacuum only (b) medium only (c) both vacuum and medium (d) none - Answer: (c)
9. The energy of EM waves depends on: (a) frequency (b) distance (c) mass (d) charge - Answer: (a)
10. Microwaves are used in: (a) cooking (b) lighting (c) magnetism (d) sound - Answer: (a)

Fill in the Blanks:

1. Electromagnetic waves do not require a _____ for propagation. Answer: medium
2. Speed of light is approximately _____ m/s. Answer: 3×10^8
3. Electric and magnetic fields are _____ to each other. Answer: perpendicular
4. Wavelength is the distance between two successive _____. Answer: crests
5. Frequency is number of cycles per _____. Answer: second
6. EM waves carry _____. Answer: energy
7. Visible light is a part of _____ spectrum. Answer: electromagnetic
8. Radio waves have _____ frequency. Answer: low
9. Gamma rays have very _____ energy. Answer: high
10. EM waves travel in straight _____. Answer: lines