

Class : XIIth

Subject : PHYSICS

Date :

DPP No. : 8

Topic :- Electro Magnetic Wave

- The fundamental source of e. m. waves
(A) is varying magnetic field (B) constant magnetic and electric fields
(C) are continuous oscillations of electric charge (D) is planets
- The displacement current was first postulated by
(A) Ampere (B) Maxwell (C) Hertz (D) Marconi
- An accelerated electric charge emits
(A) β – rays (B) γ – rays (C) e.m. waves (D) none of the above
- The speed of e. m. waves is given by the relation
(A) $\mu_0 \epsilon_0$ (B) (C) $1/\mu_0 \epsilon_0$ (D) $1/$
- Electromagnetic waves in nature are
(A) longitudinal (B) longitudinal stationary
(C) transverse (D) transverse – stationary
- An accelerated charge
(A) emits an electromagnetic wave (B) does not emit electromagnetic wave
(C) produces a gravitational field (D) none of the above
- Electromagnetic waves
(A) are longitudinal waves
(B) travel in free space at the speed of light
(C) are produced by charges moving with uniform velocity
(D) travel with the same speed in all media
- Choose the only wrong statement from the following about electromagnetic waves
(A) are transverse (B) travels free space at the speed of light
(C) are produced by accelerating charges (D) travel with the same speed in all media

9. In an electromagnetic wave, electric field E and magnetic field B are
 (A) mutually perpendicular to each other (B) all parallel
 (C) at 30° to each other (D) at 60° to each other
10. Electromagnetic wave obey the principle of
 (A) superposition (B) interference (C) 1 and 2 both
 (D) none of the above
11. If E and B be the electric and magnetic fields of electromagnetic waves, then the direction of propagation of e. m. wave is along the direction of
 (A) E (B) B (C) $E \times B$ (D) None of the above
12. Which of the following pairs of space and time varying E and B fields would generate a plane electromagnetic wave travelling in the Z- direction
 (A) E_x, B_y (B) E_y, B_x (C) E_x, B_z (D) E_z, B_x
13. Choose the correct statement about electromagnetic waves
 (A) they are supersonic waves (B) they are the electric charged particles
 (C) they travel with the speed of light (D) they can only be produced in laboratory.
14. Hertz produced electromagnetic wave by using
 (A) L C R circuit (B) C R circuit (C) L C circuit
 (D) None of the above
15. The shortest wavelength is for
 (A) γ - rays (B) x - rays (C) ultraviolet rays (D) microwaves
16. Visible range of wavelength in cm is
 (A) 3×10^{-6} to 10^{-10} (B) 7×10^{-5} to 4×10^{-5}
 (C) 4×10^{-5} to 3×10^{-6} (D) 6×10^4 to 1.5×10^3
17. Which has the longest wavelength
 (A) infrared light (B) ultraviolet light (C) radio-waves (D) X-rays
18. The earth's atmosphere is richer in
 (A) infra - red radiation (B) ultraviolet radiations (C) visible radiations (D) blue colour radiations
19. Microwaves are used for
 (A) television (B) radio transmission (C) radar system (D) all the above
20. Ionosphere is mainly composed of
 (A) electrons and positive ions (B) ozone gas

(C) nitrogen and oxygen

(D) b and c both

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