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Mon Tue Wed Thu Fri Sat Sun

05 FEB 2024

(P-1)

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Date:- 05/02/2024

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Notes (MJC-Physics, SEM-II)

Topic:- Wave characteristics

* Waves \Rightarrow It is a form of energy which travels through a material medium due to the repeated periodic motion of the particles of the medium about their mean positions.

* Types of wave:- there are many types of wave some of them are following :-

- (i) Mechanical waves.
- (ii) Electromagnetic waves.
- (iii) Matter waves.
- (iv) Transverse wave.
- (v) Longitudinal wave.



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SEM-1 (P-2)

- * Mechanical Waves:— A mechanical wave is a periodic disturbance which requires material medium for its propagation. It is also called elastic waves because their propagation depends upon properties of material medium.
- * Electromagnetic Waves:— The electromagnetic waves is a periodic disturbance which requires no material medium for their propagation and can travel through a vacuum.
- * Matter Waves:— When a material particle like electron, photon, neutron atom and molecule etc. moves a wave is associated with this moving particle. This wave is called matter waves.
- * Transverse wave:— A wave in which the particle of the medium vibrate perpendicular to direction of propagation of the wave is known as transverse waves.

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* Longitudinal waves:- The wave motion in which the particles of the material medium vibrate back and forth about their mean positions along with the direction of propagation of the wave is called Longitudinal waves.

* Important terms use in waves:-

(i) Compression (ii) Rarefaction (iii) Beat.

* Compression:- A region of medium where the particles of the medium are closer to each other is called Compression.

* Rarefaction:- A region of medium where the particles of medium are far from each other is called rarefaction.

* Beat:- The phenomenon of regular rise and fall in the intensity of sound, when two waves of nearly equal frequency traveling along the same time and in the same direction superimpose to each other is called beats.