

Physics - FSC Part 1 Physics Chapter 8 Short Questions Preparation

Q1. As the result of distant explosion an observer senses a ground tremor and then hears the explosions. Explain the time difference.

Ans 1: The waves produced by the explosion reach the observer quickly through the ground as compared to the sound waves reaching through the air. This is due to the reason that sound travels faster in solid than gases.

Q2. Define Beat and beat frequency.

Ans 1: Beat: Two waves of slightly different frequencies and travelling in the same direction produce beats.

Beat Frequency: Number of beats per second is called beat frequency which is equal to the difference in frequencies.

Q3. Is it possible for two identical waves travelling in the same direction along the string to give rise to a stationary wave?

Ans 1: No, it is not possible for two identical waves travelling in the same direction along a string to give rise to stationary waves, For stationary waves, wo identical waves must travel in opposite direction.

Q4. Give any two applications of Doppler Effect.

Ans 1: Doppler effect is used:

- 1. In radar systems, the Doppler effect is used to determine the elevation and speed of aero plane.
- 2. Astronomers use the Doppler Effect to calculate the speed of distant stars and galaxies.

Q5. What is radar?

Ans 1: It is acronym for Radio Detection and Ranging. It is a device which transmits and receive radio waves which are used to determine height and speed of aeroplane.

Q6. How are beats useful in tuning musical instruments?

Ans 1: Beats are used in tuning musical instruments. One can use beats to tune a string of musical instrument such as plano by beating a not against a note oh known frequency. The string is then adjusted to the desired frequency by tightening or loosening it until no beats are heard.

Q7. Define Doppler Effect.

Ans 1: The apparent change in the frequency of sound due to relative motion between the observer and source of sound is called

| longitudinal and tran | ch tr5ansfer energy by moving away from the source of disturbance is called progressive wave.For example sverse waves. |
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| Q9. What are the fa | ctors on which speed of sound in air depends? |
| Ans 1: | |
| Speed of sour | d is inversely proportional to the square root of densities of gases. |
| | d increases with the increase in temperature d is not affected by a variation in the pressure of the gas. |
| Q10. What is effect | of pressure on the speed of sound in gases? |
| Ans 1: | |
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Doppler Effect. If the observer and source of sound are approaching then the frequency of sound will increase and vice versa.