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# Physics

Master Physics for BITSAT with Key Concepts and Strategies!

## DEFINITION

BITSAT Physics assesses your understanding of fundamental concepts and problem-solving skills in physics. It is crucial for engineering aspirants to perform well in this section.

## KEY CONCEPTS

### Kinematics

The study of motion without considering its causes, focusing on displacement, velocity, and acceleration.

### Newton's Laws

Three laws that describe the relationship between the motion of an object and the forces acting on it.

### Work and Energy

Work is done when a force causes displacement; energy is the capacity to do work.

### Waves and Sound

Waves are disturbances that transfer energy; sound waves are longitudinal waves that require a medium.

### Electromagnetism

The study of electric charges, magnetic fields, and their interactions, crucial for understanding circuits.

## EXAMPLES

→ Calculating the trajectory of a projectile.

→ Determining the work done by a force over a distance.

→ Analyzing the frequency of a sound wave.

## MEMORY TIPS

★ Use the acronym 'KNEW' for Kinematics, Newton's Laws, Energy, and Waves.

★ Remember 'F=ma' for Newton's Second Law as 'Force equals mass times acceleration.'

★ Visualize waves as 'ripples' in water to understand their propagation.

## COMMON MISTAKES

✗ Confusing speed with velocity, neglecting direction.

✗ Overlooking units in calculations, leading to incorrect answers.

✗ Misapplying Newton's laws in non-inertial frames.

## QUICK RECAP

Focus on understanding core physics principles and their applications. Practice problem-solving to enhance speed and accuracy. Review key formulas and concepts regularly to reinforce memory.