Polytechnic 1st Semester C.E/CSE

Important Questions All Subject

**Update On -**

**23/03/2024**

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**Physics**

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## 1. Unit & Measurement:

**a) What is the formula for calculating percentage error in a measurement?**

**b) How do you determine the number of significant figures in a measurement?**

**c) Define absolute error in the context of measurements.**

## 2. Mechanics:

**a) State Newton's First Law of Motion.**

**b) Describe the characteristics of Simple Harmonic Motion (SHM).**

**c) What are angular displacement, angular velocity, and angular acceleration?**

## 3. Gravitation:

**a) What is Newton's Law of Gravitation and how is it expressed mathematically?**

**b) Explain the relationship between the universal gravitational constant (G) and the acceleration due to gravity (g).**

**c) Derive the equation of motion for an object falling under gravity.**

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## 4. Work Power:

**a) State the Work-Energy Theorem.**

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## 5. Elasticity:

**a) What is Hooke's Law and what does it describe?**

**b) Define stress and strain in the context of elasticity.**

**c) Explain Young's Modulus, Bulk Modulus, and Modulus of Rigidity.**

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## 6. Surface Tension:

**a) Describe Laplace's Molecular Theory.**

**b) How does surface tension change with the presence of impurities and temperature?**

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## 7. Viscosity:

**a) Define viscosity and explain how it relates to the flow of fluids.**

**b) What does Newton's Law of Viscosity state?**

**c) How is the coefficient of viscosity determined?**

**d) Explain Stoke's Law in the context of viscosity.**

**e) Distinguish between streamline flow and turbulent flow.**

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## 8. Heat:

**a) Discuss the methods of transmission of heat.**

**b) What is radiation heat transfer?**

**c) Define linear expansion, aerial expansion, and cubical expansion and describe their relation.**

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## 9. Sound:

**a) Define sound and its fundamental characteristics such as frequency, wavelength, echo, time period, reverberation, and acoustics.**

**b) What are the conditions necessary for good acoustics?**