



**CHAPTER-WISE LIST of MOST IMPORTANT &
HIGHLY EXPECTED QUESTIONS for Class 12 Physics
(Maharashtra Board)**

Physics imp



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VELOSTRIX

Aurangabad

● CHAPTER 1: Rotational Dynamics

1. Define **angular momentum** and state its SI unit.
 2. State and prove the **law of conservation of angular momentum**.
 3. Define **moment of inertia** and give its physical significance.
 4. Derive expression for **M.I. of a solid disc about its central axis**.
 5. Define **torque** and write its vector form.
 6. Obtain relation between **torque and angular acceleration**.
 7. Derive expression for **rotational kinetic energy**.
 8. Numerical based on **flywheel / rotating disc**.
 9. Explain **rolling motion** and condition for pure rolling.
 10. Numerical based on **work–energy in rotational motion**.
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● CHAPTER 2: Mechanical Properties of Fluids

1. Define **viscosity** and state its SI unit.
 2. State and derive **Newton's law of viscosity**.
 3. Explain **streamline and turbulent flow**.
 4. Define **Reynolds number** and its significance.
 5. State and prove **Bernoulli's theorem**.
 6. Applications of **Bernoulli's theorem** (any two).
 7. Define **surface tension** and state its units.
 8. Derive expression for **excess pressure inside a liquid drop**.
 9. Define **angle of contact** and explain wetting.
 10. Numerical based on **pressure in liquid drop/soap bubble**
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● CHAPTER 3: Kinetic Theory of Gases & Radiation

1. State assumptions of **kinetic theory of gases**.
 2. Derive expression for **pressure of an ideal gas**.
 3. Define **rms speed** and derive its expression.
 4. Obtain relation between **rms speed and temperature**.
 5. Define **mean free path** and write its formula.
 6. Define **perfect black body**.
 7. State **Stefan's law of radiation**.
 8. State **Kirchhoff's law of heat radiation**.
 9. Numerical based on **rms speed of gases**.
 10. Numerical based on **Stefan's law**.
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● CHAPTER 4: Thermodynamics

1. Define **thermodynamic system and surroundings**.
 2. State **first law of thermodynamics**.
 3. Explain **isothermal process** and derive work done.
 4. Explain **adiabatic process** with equation.
 5. Define **specific heats Cp and Cv**.
 6. Prove **Mayer's relation**.
 7. Explain **cyclic process**.
 8. Define **entropy** (short answer).
 9. Numerical based on **isothermal expansion**.
 10. Numerical based on **adiabatic relation**.
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