Glossary – Physics- 11 CBSE

1. **Acceleration** - Rate of change of velocity. Measured in meters per second squared (m/s^2).

2. **Angular momentum** - Rotational motion's tendency to keep rotating. Depends on mass, velocity, and distance from axis.

3. **Centripetal force** - Force required for circular motion. Directed towards the center of the circle.

4. **Displacement** - Change in position. Measured in meters (m).

5. **Elastic potential energy** - Energy stored in stretched or compressed objects. Released when object returns to original shape.

6. **Force** - Push or pull causing motion change. Measured in Newton's (N).

7. **Friction** - Force opposing motion between surfaces. Depends on surface roughness and force applied.

8. **Gravity** - Attractive force between masses. Strength depends on mass and distance.

9. **Impulse** - Force multiplied by time. Causes change in momentum.

10. **Kinetic energy** - Energy of motion. Depends on mass and velocity.

11. **Linear momentum** - Product of mass and velocity. Measured in kilogram-meters per second (kg·m/s).

12. **Mass** - Measure of an object's resistance to changes. Measured in kilograms (kg).

13. **Moment of inertia** - Rotational motion's resistance. Depends on mass and distance from axis.

14. **Normal force** - Force exerted by a surface. Perpendicular to the surface.

15. **Potential energy** - Energy due to an object's position. Depends on height and mass.

16. **Power** - Rate of work done. Measured in Watts (W).

17. **Pressure** - Force per unit area. Measured in Pascal's (Pa).

18. **Rotational kinematics** - Study of rotational motion. Involves angular displacement, velocity, and acceleration.

19. **Rotational dynamics** - Study of rotational forces. Involves torque and moment of inertia.

20. **Torque** - Rotational force. Measured in Newton-meters (NM).

21. **Velocity** - Rate of change of position. Measured in meters per second (m/s).

22. **Work** - **Energy** transferred by force. Measured in Joules (J).

23. **Kinetic friction** - Friction force when an object moves. Depends on surface roughness and force applied.

24. **Static friction** - Friction force when an object is stationary. Depends on surface roughness and force applied.

25. **Rolling friction** - Friction force when an object rolls. Depends on **surface** roughness and force applied.

26. **Gravitational potential energy** - Energy due to an object's height. Depends on height and mass.

27. **Escape velocity** - Minimum speed to escape a celestial body's gravity. Depends on mass and radius.

28. **Orbital velocity** - Speed required for a stable orbit. Depends on mass and radius.

29. **Centrifugal force** - Apparent force in rotating reference frames. Directed away from the center.

30. **Coriolis force** - Apparent force in rotating reference frames. Directed perpendicular to velocity.

31. **Damping** - Energy loss in oscillatory motion. Due to friction or other forces.

32. **Resonance** - Amplification of oscillations at a specific frequency. Due to matching natural frequency.

33. **Forced oscillations** - Oscillations due to an external force. Can be damped or resonant.

34. **Natural frequency** - Frequency of oscillations without external force. Depends on mass and stiffness.

35. **Phase difference** - Difference in oscillation phases. Can cause interference.

36. **Wave speed** - Speed of wave propagation. Depends on medium properties.

Surendhar. S, Physics

37. **Frequency** - Number of oscillations per second. Measured in Hertz (Hz).

38. **Period** - Time taken for one oscillation. Measured in seconds (s).

39. **Amplitude** - Maximum displacement in oscillations. Measured in meters (m).

40. **Wavelength** - Distance between successive wave peaks. Measured in meters (m).

41. **Wave number** - Number of waves per unit distance. Measured in meters^(-1) (m^(-1)).

42. **Angular frequency** - Frequency in radians per second. Measured in radians per second (rad/s).

43. **Angular displacement** - Rotation angle. Measured in radians (rad).

44. **Angular velocity** - Rotation speed. Measured in radians per second (rad/s).

45. **Torque** - Rotational force. Measured in Newton-meters (NM).

46. **Rotational kinetic energy** - Energy of rotational motion. Depends on moment of inertia and angular velocity.

47. **Translational kinetic energy** - Energy of linear motion. Depends on mass and velocity.

48. **Rotational potential energy** - Energy of rotational position. Depends on moment of inertia and angular displacement.

49. **Translational potential energy** - Energy of linear position. Depends on height and mass.

50. **Inertia** - Resistance to changes in motion. Depends on mass.

51. **Momentum** - Product of mass and velocity. Measured in kilogram-meters per second (kg·m

52. **Efficiency** - Measure of energy transfer. Ratio of output to input energy.

53. **Mechanical** advantage - Force amplification. Ratio of output to input force.

54. **Velocity** - Rate of change of position. Measured in meters per second (m/s).

55. **Acceleration** - Rate of change of velocity. Measured in meters per second squared (m/s^2).

56. **Force** - Push or pull causing motion change. Measured in Newton's (N).

57. **Displacement** - Change in position. Measured in meters (m).

58. **Energy** - Capacity to do work. Measured in Joules (J).

59. **Work** - **Energy** transferred by force. Measured in Joules (J).

60. **Power** - Rate of work done. Measured in Watts (W).

61. **Pressure** - Force per unit area. Measured in Pascal's (Pa).

62. **Rotational motion** - Motion around a fixed axis. Involves angular displacement, velocity, and acceleration.

63. **Oscillation** - Repeated back-and-forth motion. Can be simple harmonic or damped.

64. **Simple harmonic motion** - Oscillatory motion with constant acceleration. Involves force proportional to displacement.

65. **Damping force** - Force opposing oscillatory motion. Can be viscous or frictional.

66. **Resonant frequency** - Frequency at which oscillations amplify. Matches natural frequency.

67. **Wave** - Disturbance traveling through a medium. Can be longitudinal or transverse.

68. **Wavelength** - Distance between successive wave peaks. Measured in meters (m).

69. **Frequency** - Number of waves per second. Measured in Hertz (Hz).

70. **Speed** of **sound** - Speed of sound waves in a medium. Depends on medium properties.

71. **Refraction** - Bending of waves due to medium change. Depends on medium properties.

72. **Diffraction** - Bending of waves around obstacles. Depends on wavelength and obstacle size.

73. **Interference** - Superposition of waves. Can cause constructive or destructive interference.

74. **Superposition** - Combination of multiple waves. Results in interference pattern.

75. **Standing wave** - Wave with fixed nodes and antinodes. Results from interference.

76. **Travelling wave** - Wave moving through a medium. Transfers energy.

77. **Longitudinal wave** - Wave with particle motion parallel to direction. Examples include sound waves.

78. **Transverse wave** - Wave with particle motion perpendicular to direction. Examples include light waves.

79. **Electromagnetic wave** - Wave with electric and magnetic components. Includes light, radio, and X-rays.

80. **Gravitational wave** - Wave with gravitational field variations. Predicted by Einstein's theory.

81. **Rotational kinematics** - Study of rotational motion. Involves angular displacement, velocity, and acceleration.

82. **Rotational dynamics** - Study of rotational forces. Involves torque and moment of inertia.

83. **Angular momentum** - Rotational motion's tendency to keep rotating. Depends on mass, velocity, and distance from axis.

84. **Torque** - Rotational force. Measured in Newton-meters (N·m).

85. **Rotational energy** - Energy of rotational motion. Depends on moment of inertia and angular velocity.

86. **Rotational work** - Work done in rotational motion. Depends on torque and angular displacement.

87. **Rotational power** - Rate of rotational work. Depends on torque and angular velocity.

88. **Centripetal force** - Force required for circular motion. Directed towards the center.

89. **Centrifugal force** - Apparent force in rotating reference frames. Directed away from the center.

90. **Carioles** force - Apparent force in rotating reference frames. Directed perpendicular to velocity.

91. **Inertial force** - Apparent force in accelerating reference frames. Depends on acceleration and mass.

92. **Momentum** - Product of mass and velocity. Measured in kilogram-meters per second (kg·m/s).

93. **Conservation** of **momentum** - Momentum remains constant. In closed systems, without external forces.

94. **Conservation** of **energy** - Energy remains constant. In closed systems, without external forces.

95. **Elastic collision** - Collision with no kinetic energy loss. Momentum and energy conserved.

96. **Inelastic collision** - Collision with kinetic energy loss. Momentum conserved, energy not conserved.

97. **Impulse-momentum** theorem - Impulse equals change in momentum. For a closed system.

98. **Work-energy** theorem - Work equals change in energy. For a closed system.

99. **Kinetic energy** - Energy of motion. Depends on mass and velocity.

100. **Potential energy** - Energy due to position or configuration. Depends on height, mass, or configuration.

101. **Gravitation** - Force of attraction between two masses. Depends on mass and distance.

102. **Gravity** - Force of attraction towards a celestial body's center. Keeps objects on the surface.

103. **Universal Gravitation** - Gravitational force between all objects in the universe. Described by Newton's Law.

104. **Newton's Law** of **Gravitation** - Every point mass attracts every other point mass. Force proportional to product of masses and inversely proportional to square of distance.

105. **Gravitational Constant** (G) - Proportionality constant in Newton's Law. Value is 6.67408e-11 N·m^2/kg^2.

106. **Mass** - Measure of an object's resistance to changes in motion. Also determines gravitational force.

107. **Weight** - Force exerted by gravity on an object. Depends on mass and gravitational acceleration.

108. Gravitational **Acceleration** (g) - Acceleration due to gravity. Value is 9.80665 m/s^2 on Earth's surface.

109. **Escape Velocity** - Minimum speed to escape a celestial body's gravity. Depends on mass and radius.

110. **Orbital Velocity** - Speed required for a stable orbit. Depends on mass and radius.

111. **Kepler's Laws** - Describe planetary motion in our solar system. Include elliptical orbits and equal areas.

112. **Orbital Velocity** - Speed required for a stable orbit. Depends on mass and radius.

113. **Escape Velocity** - Minimum speed to escape a celestial body's gravity. Depends on mass and radius.

114. **Gravitational Potential Energy** - Energy due to an object's height or position. Depends on mass, height, and gravitational acceleration.

115. **Gravitational Field** - Region around a celestial body where gravity is present. Strength decreases with distance.

116. **Intensity** of **Gravitational** Field - Gravitational force per unit mass. Depends on mass and distance.

117. **Acceleration Due** to **Gravity** - Gravitational acceleration on Earth's surface. Value is 9.80665 m/s^2.

118. **Gravitational** Force - Force of attraction between two masses. Depends on mass and distance.

119. **Universal** Law of **Gravitation** - Every point mass attracts every other point mass. Force proportional to product of masses and inversely proportional to square of distance.

110. **Gravitational Constant** (G) - Proportionality constant in Universal Law of Gravitation. Value is 6.67408e-11 N·m^2/kg^2.

121. **Elasticity** - Ability to return to original shape after deformation. Measured by Young's Modulus.

122. **Plasticity** - Ability to undergo permanent deformation without breaking. Occurs when stress exceeds yield strength.

123. **Stress** - Force per unit area on an object. Can be tensile, compressive, or shear.

124. **Strain** - Deformation per unit length of an object. Can be linear or angular.

125. **Young's Modulus** - Ratio of stress to strain in elastic deformation. Measures stiffness.

126. **Poisson's Ratio** - Ratio of lateral strain to longitudinal strain. Measures lateral expansion.

127. **Tensile Strength** - Maximum stress an object can withstand without breaking. Measures resistance to pulling.

128. **Compressive Strength** - Maximum compressive stress an object can withstand. Measures resistance to squeezing.

129. **Shear Strength** - Maximum shear stress an object can withstand. Measures resistance to sliding.

121. **Toughness** - Ability to absorb energy without breaking. Measures resistance to impact.

122. **Viscosity** - Measure of fluid's resistance to flow. Measures thickness or flowability.

123. **Surface Tension** - Energy per unit area at a fluid's surface. Causes liquids to behave as if they have an "elastic skin".

124. **Pressure** - Force per unit area on a fluid. Can be hydrostatic or dynamic.

125. **Density** - **Mass** per unit volume of a fluid. Measures how heavy or light a fluid is.

126. **Buoyancy** - Upward force on an object in a fluid. Equal to weight of fluid displaced.

127. **Archimedes' Principle** - Buoyant force equals weight of fluid displaced. Used to calculate buoyancy.

128. **Pascal's Principle** - Pressure applied to a fluid is transmitted equally. Used in hydraulic systems.

129. **Bernoulli's Principle** - Energy conservation in fluid flow. Relates pressure and velocity.

130. **Temperature** - Measure of thermal energy. Affects fluid properties and behavior.

131. **Heat Transfer** - Transfer of thermal energy. Occurs through conduction, convection, or radiation.

132. **Specific Heat Capacity** - Energy required to change temperature. Measures ability to absorb heat.

133. **Thermal Conductivity** - Ability to conduct heat. Measures how easily heat flows.

134. **Thermal Expansion** - Change in size due to temperature change. Affects fluid density and behavior.

135. **Ductility** - Ability to be stretched without breaking. Measures flexibility.

136. **Malleability** - Ability to be shaped without breaking. Measures ability to be molded.

137. **Hardness** - Resistance to scratching or abrasion. Measures surface durability.

138. **Impact Strength** - Ability to withstand impact without breaking. Measures toughness.

139. **Fatigue Strength** - Ability to withstand repeated loading. Measures endurance.

140. **Laminar Flow** - Smooth, continuous fluid flow. Occurs at low velocities.

141. **Turbulent Flow** - Chaotic, irregular fluid flow. Occurs at high velocities.

142. **Reynolds Number** - Ratio of inertial to viscous forces. Predicts flow behavior.

143. **Boundary Layer** - Region near a surface where flow is affected. Affects friction and heat transfer.

144. **Fluid Dynamics** - Study of fluid motion and forces. Includes kinematics and dynamics.

145. **Solid Mechanics** - Study of solid deformation and forces. Includes stress, strain, and elasticity.

146. **Friction** - Force opposing motion between surfaces. Affects energy transfer and efficiency.

147. **Normal Force** - Force exerted by a surface on an object. Perpendicular to surface.

148. **Shear Force** - Force causing deformation by sliding. Parallel to surface.

149. **Torsion** - Twisting force causing rotation. Causes angular deformation.

150. **Compression** - Force causing reduction in volume. Causes compressive stress.

151. **Tension** - Force causing increase in length. Causes tensile stress.

152. **Specific Heat Capacity** - Energy required to change temperature. Depends on substance and phase.

153. **Thermal Conductivity** - Ability to conduct heat. **Measured** in Watts per meter-Kelvin.

154. **Thermal Expansion** - Change in size due to temperature change. Measured in meters per Kelvin.

155. **Thermodynamics** - Study of heat, temperature, and energy transfer. Includes laws and principles.

156. **Internal Energy** - Total energy of a system. Includes kinetic, potential, and thermal energy.

157. **Enthalpy** - Total energy of a system, including pressure and volume. Used in thermodynamic calculations.

158. **Entropy** - Measure of disorder or randomness. Increases in spontaneous processes.

159. **Latent Heat** - Energy required for phase change. Depends on substance and phase.

160. **Sensible Heat** - Energy required for temperature change. Depends on substance and temperature.

161. **Conduction** - Heat transfer through direct contact. Occurs in solids, liquids, and gases.

162. **Convection** - Heat transfer through fluid motion. Occurs in liquids and gases.

163. **Radiation** - Heat transfer through electromagnetic waves. Occurs in all matter.

164. **Thermal Resistance** - Opposition to heat transfer. Measured in Kelvin per Watt.

165. **Thermal Insulation** - Material that reduces heat transfer. Used to conserve energy.

166. **Heat Capacity** - Ability to absorb heat energy. Measured in Joules per Kelvin.

167. **Molar Heat Capacity** - Heat capacity per mole of substance. Used in chemical calculations.

168. **Phase Change** - Change from one state of matter to another. Occurs at specific temperatures.

169. **Melting Point** - Temperature at which a substance melts. Depends on substance and pressure.

170. **Boiling Point** - Temperature at which a substance boils. Depends on substance and pressure.

171. **Sublimation** - Change from solid to gas without melting. Occurs in some substances.

172. **Deposition** - Change from gas to solid without condensing. Occurs in some substances.

173. **Heat** of **Fusion** - Energy required for melting. Depends on substance and phase.

174. **Heat** of **Vaporization** - Energy required for boiling. Depends on substance and phase.

175. **Thermal Diffusivity** - Rate of heat transfer through a material. Measured in meters squared per second.

176. **Prandtl Number** - Ratio of momentum diffusivity to thermal diffusivity. Used in fluid dynamics.

177. **Nusselt Number** - Ratio of convective to conductive heat transfer. Used in heat transfer calculations.

178. **Reynolds Number** - Ratio of inertial to viscous forces. Used in fluid dynamics.

179. **Grashof Number** - Ratio of buoyant to viscous forces. Used in heat transfer calculations.

180. **Fourier's Law** - Heat transfer rate proportional to temperature gradient. Used in heat transfer calculations.

181. **Newton's Law** of **Cooling** - Cooling rate proportional to temperature difference. Used in cooling calculations.

182. **Stefan-Boltzmann** Law - Radiation heat transfer proportional to temperature fourth power. Used in radiation calculations.

183. **Wien's Displacement** Law - Peak wavelength of radiation inversely proportional to temperature. Used in radiation calculations.

184. **Blackbody** - Perfect absorber and emitter of radiation. Used as a reference in radiation calculations.

184. **Graybody** - Partial absorber and emitter of radiation. Used in radiation calculations.

185. **Thermal Equilibrium** - State of equal temperature throughout a system. Achieved through heat transfer.

186. **Thermodynamic Equilibrium** - State of equal temperature and chemical potential. Achieved through heat and work transfer.

187. **Isobaric Process** - Process at constant pressure. Used in thermodynamic calculations.

188. **Adiabatic Process** - Process without heat transfer. Used in thermodynamic calculations.

189. **Oscillation** - Repeated motion around a fixed point. Can be simple harmonic or damped.

190. **Wave** - Disturbance traveling through a medium. Can be longitudinal or transverse.

191. **Simple Harmonic Motion** (SHM) - Oscillation with constant amplitude and frequency. Described by Hooke's Law.

192. **Frequency** - Number of oscillations per second. Measured in Hertz (Hz).

193. **Amplitude** - Maximum displacement from equilibrium. Measured in meters (m).

194. **Period** - Time taken for one oscillation. Measured in seconds (s).

195. **Wavelength** - Distance between successive wave peaks. Measured in meters (m).

196. **Wave Speed** - Speed at which a wave travels. Measured in meters per second (m/s).

197. **Superposition** - Combination of multiple waves. Results in interference pattern.

198. **Interference** - Result of superposition of waves. Can be constructive or destructive.

199. **Diffraction** - Bending of waves around obstacles. Occurs due to wave nature.

200. **Refraction** - Change in wave direction due to medium change. Occurs due to change in wave speed.

201. **Reflection** - Change in wave direction due to surface. Occurs due to wave hitting a surface.

202. **Standing Wave** - Wave with fixed nodes and antinodes. Results from interference.

203. **Travelling Wave** - Wave moving through a medium. Transfers energy.

204. **Longitudinal** Wave - Wave with particle motion parallel to direction. Examples include sound waves.

205. **Transverse Wave** - Wave with particle motion perpendicular to direction. Examples include light waves.

206. **Electromagnetic Wave** - Wave with electric and magnetic components. Includes light, radio, and X-rays.

207. **Mechanical Wave** - Wave requiring a physical medium. Includes sound and water waves.

208. **Damping** - Reduction in oscillation amplitude due to friction. Can be viscous or frictional.

209. **Resonance** - Amplification of oscillations at specific frequency. Occurs due to matching frequencies.

210. **Natural Frequency** - Frequency at which a system oscillates naturally. Depends on system properties.

211. **Forced Oscillation** - Oscillation due to external force. Can be at any frequency.

212. **Phase** - Initial angle of oscillation. Measured in radians (rad).

213. **Phase Difference** - Difference in phase between two oscillations. Measured in radians (rad).

214. **Beat Frequency** - Frequency of amplitude oscillations. Results from interference.

215. **Doppler Effect** - Change in frequency due to relative motion. Occurs in sound and light waves.

216. **Wave front** - Surface of constant phase. Used to describe wave propagation.

217. **Ray** - Line representing wave direction. Used to describe wave propagation.

218. **Snell's Law** - Relationship between angles of incidence and refraction. Used in optics.

219. **Total Internal Reflection** - Complete reflection at a surface. Occurs due to change in medium.

220. **Critical Angle** - Angle above which total internal reflection occurs. Depends on medium properties.

221. **Polarization** - Orientation of wave vibration. Can be linear or circular.

222. **Intensity** - Energy transmitted per unit area per unit time. Measured in Watts per meter squared (W/m^2).

223. **Displacement** - Change in position due to wave. Measured in meters (m).

224. **Velocity** - Rate of change of displacement. Measured in meters per second (m/s).

225. **Acceleration** - Rate of change of velocity. Measured in meters per second squared (m/s^2).

226. **Wave Impedance** - Opposition to wave propagation. Measured in Ohms (Ω).

227. **Impedance Matching** - Technique to maximize energy transfer. Used in electronics.

228. **Group Velocity** - Speed at which wave energy travels. Measured in meters per second (m/s).

Surendhar. S, Physics