

## Physics ICS Part 1 Chapter 11 Online Test

Sr	Questions	Answers Choice
1	If an observer is moving in the same direction as a sound wave, the velocity of the wave seems to be	A. <p>Less</p> B. <p>More</p> C. <p>Constant</p> D. <p>Sum of the two velocities</p>
2	A non-inertial frame of reference.	A. <p>Moves with some acceleration</p> B. <p>Is always rest on earth</p> C. <p>Moves with uniform velocity</p> D. <p>All of the above</p>
3	A photon is particle of light. What is its mass when it moves with 0.9 C?	A. <p> $9.1 \times 10^{-31}$ kg</p> B. <p> $1.67 \times 10^{-19}$ kg</p> C. <p> $1.67 \times 10^{-27}$ kg</p> D. <p>Zero</p>
4	Relativistic mechanics yields results different from classical mechanics for objects moving with.	A. <p>Low velocity</p> B. <p>Velocity equal to that of sound waves</p> C. <p>Velocity greater than sound waves</p> D. <p>Velocity approaching that of light</p>
5	Which one of the following physical quantities is independent of relativistic speed.	A. <p>Charge</p> B. <p>Length</p> C. <p>Mass</p> D. <p>Time</p>
6	The speed of beam light of a car while moving with high speed as compared to its rest position is	A. <p>Greater</p> B. <p>Less</p> C. <p>Same</p> D. <p>Zero</p>
7	The theory of relativity was proposed in	A. <p>1920</p> B. <p>1905</p> C. <p>1915</p> D. <p>1895</p>
8	If a material object moves with the speed of light 'c' its mass becomes	A. <p>Equal to its rest mass</p> B. <p>Infinite</p> C. <p>Four times of its rest mass</p> D. <p>Double of its rest mass</p>
9	The energy 'E' equivalent to mass given by	A. <p> $Ec^2$ </p> B. <p> $E/C^2$ </p> C. <p> $E/C$ </p> D. <p> $C^2/E$ </p>
10	If the rest mass of a particle $m_0$ increased to $m$ due to its high speed then its kinetic energy is.	A. <p> $(m - m_0) c^2$ </p> B. <p> $\frac{1}{2} mv^2$ </p> C. <p> $\frac{1}{2} mc^2$ </p> D. <p> $\frac{1}{2} (m - m_0) c^2$ </p>
11	Relativistic velocity is of the order of.	A. <p> $1/15$ of the velocity of light</p> B. <p> $1/20$ of the velocity of light</p> C. <p> $1/10$ of the velocity of light</p> D. <p> $1/25$ of the velocity of light</p>
12	A rod at rest appears to an observer just a mere point when he moves across it as speed.	A. <p>Equal to the speed of light</p> B. <p>Double the speed of light</p> C. <p>Three-fourth the speed of light</p> D. <p>None of the above</p>
13	The mass of an object will be doubled at the speed.	A. <p> $2.6 \times 10^7$ m/s</p> B. <p> $1.6 \times 10^8$ m/s</p> C. <p> $2.6 \times 10^8$ m/s</p> D. <p>None of these</p>
		A. <p> $\gamma = \frac{1}{\sqrt{1 - v^2/c^2}}$ </p>

14	The length of rod at rest as measured by an observer moving parallel to it with relativistic speed is given by	<p><math>l = l_0 \sqrt{1 - \frac{v^2}{c^2}}</math></p> <p>A. <math>l = l_0 \sqrt{1 - \frac{v^2}{c^2}}</math></p> <p>B. <math>l = l_0 \sqrt{1 - \frac{v^2}{c^2}}</math></p> <p>C. <math>l = l_0 \sqrt{1 - \frac{v^2}{c^2}}</math></p> <p>D. <math>l = l_0 \sqrt{1 - \frac{v^2}{c^2}}</math></p>
15	If a space craft of rest length ' $l_0$ ' is moving with a speed equal to speed of light, then its relativistic length $l$ , will be	<p>A. <math>l = l_0 \sqrt{1 - \frac{v^2}{c^2}}</math></p> <p>B. <math>l = l_0 \sqrt{1 - \frac{v^2}{c^2}}</math></p> <p>C. <math>l = 0</math></p> <p>D. All of these</p>