

Physics ICS Part 1 Chapter 11 Online Test

Sr	Questions	Answers Choice
1	A photon is particle of light. What is its mass when it moves with 0.9 C?	<p>A. 9.1×10^{-31} kg</p> <p>B. 1.67×10^{-19} kg</p> <p>C. 1.67×10^{-27} kg</p> <p>D. Zero</p>
2	Relativistic velocity is of the order of.	<p>A. $1/15$ of the velocity of light</p> <p>B. $1/20$ of the velocity of light</p> <p>C. $1/10$ of the velocity of light</p> <p>D. $1/25$ of the velocity of light</p>
3	The length of rod at rest as measured by an observer moving parallel to it with relativistic speed is given by	<p>A. $l = l_0 \left[1 - \frac{v^2}{c^2} \right]$</p> <p>B. $l = l_0 \left(1 - \frac{v^2}{c^2} \right)$</p> <p>C. $l = l_0 \left(1 - \frac{v^2}{c^2} \right)^{-1}$</p> <p>D. $l = l_0 \left(1 - \frac{v^2}{c^2} \right)^{-1/2}$</p>
4	The mass of an object will be doubled at the speed.	<p>A. 2.6×10^7 m/s</p> <p>B. 1.6×10^8 m/s</p> <p>C. 2.6×10^8 m/s</p> <p>D. None of these</p>
5	Relativistic mechanics yields results different from classical mechanics for objects moving with.	<p>A. Low velocity</p> <p>B. Velocity equal to that of sound waves</p> <p>C. Velocity greater than sound waves</p> <p>D. Velocity approaching that of light</p>
6	The speed of beam light of a car while moving with high speed as compared to its rest position is	<p>A. Greater</p> <p>B. Less</p> <p>C. Same</p> <p>D. Zero</p>
7	The energy 'E' equivalent to mass given by	<p>A. Ec^2</p> <p>B. E/C^2</p> <p>C. E/C</p> <p>D. C^2/E</p>
8	Which one of the following physical quantities is independent of relativistic speed.	<p>A. Charge</p> <p>B. Length</p> <p>C. Mass</p> <p>D. Time</p>
9	A no inertial frame of reference.	<p>A. Moves with some acceleration</p> <p>B. Is always rest on earth</p> <p>C. Moves with uniform velocity</p> <p>D. All of the above</p>
10	A rod at rest appears to an observer just a mere point when he moves across it as speed.	<p>A. Equal to the speed of light</p> <p>B. Double the speed of light</p> <p>C. Three-fourth the speed of light</p> <p>D. None of the above</p>
11	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. $l = l_0$</p> <p>B. $l = l_0/2$</p> <p>C. $l = 0$</p> <p>D. All of these</p>
12	The theory of relativity was proposed in	<p>A. 1920</p> <p>B. 1905</p> <p>C. 1915</p> <p>D. 1895</p>
13	If an observer is moving in the same direction as a sound wave, the velocity of the wave seems to be	<p>A. Less</p> <p>B. More</p> <p>C. Constant</p> <p>D. Sum of the two velocities</p>

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14. If the rest mass of a particle m_0 increased to m due to its high speed then its kinetic energy is.
- A. $(m - m_0) c^2$
B. $\frac{1}{2} mv^2$
C. $\frac{1}{2} mc^2$
D. $\frac{1}{2} (m - m_0)$
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15. If a material object moves with the speed of light 'c' its mass becomes
- A. Equal to its rest mass
B. Infinite
C. Four times of its rest mass
D. Double of its rest mass
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