

Physics ICS Part 1 Chapter 11 Online Test

Sr	Questions	Answers Choice
1	Which one of the following physical quantities is independent of relativistic speed.	A. Charge B. Length C. Mass D. Time
2	The length of rod at rest as measured by an observer moving parallel to it with relativistic speed is given by	A. $l = l_0 \sqrt{1 - v^2/c^2}$ B. $l = l_0 / \sqrt{1 - v^2/c^2}$ C. $l = l_0 \sqrt{1 - v^2/c^2}$ D. $l_0 = l \sqrt{1 - v^2/c^2}$
3	Relativistic velocity is of the order of.	A. $1/15$ of the velocity of light B. $1/20$ of the velocity of light C. $1/10$ of the velocity of light D. $1/25$ of the velocity of light
4	The speed of beam light of a car while moving with high speed as compared to its rest position is	A. Greater B. Less C. Same D. Zero
5	Relativistic mechanics yields results different from classical mechanics for objects moving with.	A. Low velocity B. Velocity equal to that of sound waves C. Velocity greater than sound waves D. Velocity approaching that of light
6	A rod at rest appears to an observer just a mere point when he moves across it as speed.	A. Equal to the speed of light B. Double the speed of light C. Three-fourth the speed of light D. None of the above
7	The energy 'E' equivalent to mass given by	A. Ec^2 B. E/C^2 C. E/C D. C^2/E
8	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. $\frac{1}{2} m v^2$ C. $\frac{1}{2} m c^2$ D. $\frac{1}{2} (m - m_0) c^2$
9	A non-inertial frame of reference.	A. Moves with some acceleration B. Is always rest on earth C. Moves with uniform velocity D. All of the above
10	The theory of relativity was proposed in	A. 1920 B. 1905 C. 1915 D. 1895
11	If an observer is moving in the same direction as a sound wave, the velocity of the wave seems to be	A. Less B. More C. Constant D. Sum of the two velocities
12	A photon is particle of light. What is its mass when it moves with $0.9c$?	A. $9.1 \times 10^{-31} \text{ kg}$ B. $1.67 \times 10^{-27} \text{ kg}$ C. $1.67 \times 10^{-27} \text{ kg}$ D. Zero
13	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. None of the above

U. \rightarrow Double of its rest mass

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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

- A. $l = l_0$
- B. $l = l_0/2$
- C. $l = 0$
- D. All of these

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The mass of an object will be doubled at the speed.

- A. 2.6×10^7 m/s
- B. 1.6×10^8 m/s
- C. 2.6×10^8 m/s
- D. None of these