**MULTIPLE CHOICE QUESTIONS**

1. Relativistic equations for time dilation hold true ata) speeds near that of light b) everyday low speeds c) all speeds d) only approximately2. According to Postulates of Special theory of relativity, which statement is true:

a) All the laws of Physics are same in all Inertial frames.

b) All the laws of Physics are same in all Reference frames.

c) Both are correct.

d) None of these are correct.

3. Which of the following refers to the slowing of time at high speeds?

a) time dilation b) time expansion c) time contraction d) space-time

4. A clock is moving with speed of light c relative to a stationary observer. The observer feels that the clock is:

a) fast b) slow c) completely stopped d) none of these

5. An Inertial frame of reference is one which

a) remains at absolute rest

b) remains at absolute motion

c) does not accelerate

d) is attached to an observer

6. The average lifetime of a π meson in its own frame of reference is 26.0 ns. If the π meson moves with speed 0.95c with respect to the Earth, what is its lifetime as measured by an observer at rest on Earth?

a)83.3 ns b) 38.3ns c)33.8ns d) 88.3ns

7. Special theory of relativity treats problems involving

a) inertial frame of reference

b) non-inertial frame of reference

c) non-accelerated frame of reference

d) accelerated frame of reference

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8. According to the Theory of Relativity, the speed of light in a vacuum is for all observers?  a) Different  b) Dependent on the motion of the source of light  c) the same  d) Dependent on the relative motion of the observer   |  |  | | --- | --- | | 11. What two principles make up the theory of special relativity?  a) Principle of nuclear forces and the principle of the speed of light  b) Principle of relativity and the principle of mass  c) Principle of mass and the principle of nuclear forces  d) Principle of relativity and the principle of the speed of light | | |  |  | |  |  | |  |  | |  |  | |  |  | | |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |