

تعداد سوالات: تستی: ۲۰ تشریحی: ۱۴

نام درس: زبان تخصصی

زمان آزمون: تستی: ۶۰ تشریحی: ۶۰ دقیقه

رشته تحصیلی/گد درس: فیزیک (هسته‌ای - جامد - اتمی) ۱۲۱۲۱۶۰

آزمون نمره منفی دارد ○ ندارد ⊗

منبع: --

مجاز است.

استفاده از: --

گد سری سوال: یک (۱)

پیامبر اعظم (ص): روزه سپر آتش جهنم است.

A: Choose the best choice to fill in the blanks.

- I am not familiar with the framework of his theory. I need to study more about it
a. conceptualize b. concept c. conceptual d. conceptually
- Real objects are of a large number of particles held together by forces acting among them.
a. standpoint b. bring out c. made up d. brought
- As a projectile rises, air resistance steadily decreases the vertical velocity.
a. compatible b. coordination c. complexity d. component
- The of an object is a measure of the work an object can do because of its motion.
a. acceleration b. force c. kinetic energy d. amount
- The rotational state of motion will be unchanged if there is no net twisting effect or on the object
a. torque b. force c. work d. momentum

B: Answer the following items by choosing the best choice.

- Which fact made it possible to make the magnetic compass?
a. Like ends repel and unlike ends attract.
b. A broken magnet still has two unlike ends.
c. A magnetic compass needle has two ends.
d. The earth is itself a magnet.
- When can we say a rod has a negative charge?
a. When it has more electrons than protons.
b. When it loses part of its electrons.
c. When its neutrons are charged and are not neutral.
d. When it acquires an unusual amount of protons.
- What does the zeroth law of thermodynamics say?
a. Transfer of energy becomes zero when objects reach thermal equilibrium.
b. Two objects in thermal equilibrium with a third one are in thermal equilibrium with each other.
c. There is no net transfer of heat between objects that have reached thermal equilibrium.
d. Both b and c

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9. When is a physical theory accepted as true?

- a. When it conforms to objective reality.
- b. When it is done with precise observation.
- c. When it has objective measurement .
- d. When it predicts results almost correctly.

10. What have 20th century progresses shown?

- a. The velocities comparable to the speed of light.
- b. An accurate framework for discussing the motion of objects.
- c. Full agreement between theory and practice for different phenomena.
- d. The inadequacy of Newton's laws at the atomic scale.

11. What is the necessary condition for a physical theory to be consistent with reality?

- a. Experiments should be designed with objectivity.
- b. Measurement should be objective.
- c. The results should be communicated objectively.
- d. All the above .

12. How do scientists avoid the use of subjective language?

- a. They use numbers to report the observed quantities.
- b. They have the same definitions for technical and general words.
- c. There is no way to avoid subjective language.
- d. There is an objective language used by all scientists.

13. Why does a moving object need a force to continue its motion?

- a. The object is not in equilibrium
- b. The object comes to rest if there is no force on it.
- c. Friction is almost always present.
- d. It is an inertial frame.

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گد سری سوال: یک (۱)

14. In which of the following situations the first law of Newton hold true.

- a. A car accelerating on a road.
- b. A boy riding on a merry-go-round.
- c. An electron rotating about a nucleus.
- d. A boy sitting on a seat in a park.

15. How does an electroscope show the presence of unbalanced charges?

- a. The leaf remains in its rest position.
- b. The gold leaf stands away from the plate.
- c. The gold leaf falls to its first position.
- d. The knob discharges the electrons.

16. Which of the following statements is false?

- a. A ball of pith, cork, and Styrofoam can be charged.
- b. Two charged rubber rods attract each other.
- c. A ball is first attracted by the rod but then is repelled.
- d. The electric charge of a rod can be transferred to a ball.

17. Why didn't we have the problem of handedness defining the directions of the electric or gravitational fields?

- a. The notion did not enter here.
- b. The were perpendicular forces there.
- c. Handedness exists more in biological contexts.
- d. The forces there were parallel to fields.

18. Which of the following equations is wrong?

- a. $-173^{\circ}\text{F} = -159\text{K}$
- b. $98.6^{\circ}\text{F} = 37^{\circ}\text{C}$
- c. $-460^{\circ}\text{F} = -273^{\circ}\text{C}$
- d. $0^{\circ}\text{C} = 310\text{K}$

19. Which of the following statements is Not true?

- a. A day always has 86400 seconds.
- b. 19th century was a little longer than 20th century.
- c. The present standard of time is atomic.
- d. The length of the day of a tropical area is not the same as that of other areas.

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20. What supplies the energy of the sun?

- The conversion of hydrogen into helium.
- The nuclear burning of hydrogen.
- The manufacture of various chemical elements.
- Both a and b

بارم هر سؤال تشریحی ۰/۵ می باشد.

C: Explain the following words in English.

- | | | | |
|---------------------|----------------------|-------------|------------------------|
| 1. interval(n) | 2. objective (adj) | 3. state(n) | 4. perpendicular (adj) |
| 5. conversely (adv) | 6. furthermore (adj) | 7. yield | |

D: Translate the following texts into Farsi

- He was led to this idea by considering the relationships between the basic laws of electromagnetism, which had been discovered decades before.
- Although it was based on purely theoretical reasoning, Maxwell's hypothesis led immediately to the prediction of charges or currents.
- Actually, the earth's magnetic behavior is much more complex than that of a simple magnet. There are few places on earth where a compass needle will indicate the correct direction of north.
- When two objects, one hotter and one colder, are placed in contact, the energy transfer proceeds only for a finite time. When it finally stops, we note that neither object is now hotter nor colder than the other.
- Some measurements result in a number which is only slightly better than a rough estimate, while others yield numbers which we may report with confidence to one part in a billion.
- This is always the case if the forces are all applied at a common point or so that their lines of action cross at a common point.
- We noted in the preceding section that two inertial observers will agree on whether the motion of an object is accelerated.