

تعداد سوالات: تستی: ۲۰ تشریحی: ۴  
 زمان آزمون: تستی: ۴۵ تشریحی: ۴۵ دقیقه  
 آزمون نمره منفی دارد ○ ندارد ⊗

نام درس: زبان تخصصی  
 رشته تحصیلی و کد درس: فیزیک  
 ۱۲۱۲۱۶۰  
 کد سری سؤال: یک (۱)

استفاده از: — مجاز است.

امام علی (ع): برتری مردم به یکدیگر، به دانش‌ها و خردهاست؛ نه به ثروت‌ها و تبارها.

**A. Fill in the blanks with the appropriate words:**

- 1- If we push or pull an object, we are ..... a force on it.  
 a. exerting                      b. creating                      c. advancing                      d. fixing
- 2- Atoms and molecules may vibrate when they are ..... by certain force.  
 a. undergone                      b. affected                      c. applied                      d. subjected
- 3- Technologists are concerned with the practical ..... of the scientific findings.  
 a. manufacture                      b. experience                      c. derivation                      d. account
- 4- Unlike electromagnetic and gravitational forces, the strong and weak nuclear forces act only at distances ..... to nuclear dimensions.  
 a. relative                      b. comparable                      c. equal                      d. typical
- 5- Two ..... observers will agree on whether the motion of an object is accelerated.  
 a. simultaneous                      b. equivalent                      c. inertial                      d. free-falling
- 6- The differences between conductors and insulators can be ..... by the atomic model.  
 a. defined                      b. discussed                      c. explained                      d. introduced
- 7- Relativistic effects become important at speeds ..... that of light.  
 a. similar to                      b. typical of                      c. familiar of                      d. comparable to
- 8- The atomic bomb is one of the ..... of the findings of nuclear physics.  
 a. applications                      b. complications                      c. advancements                      d. instrumentations
- 9- A theory is not accepted until it is ..... by experiments.  
 a. simulated                      b. verified                      c. demonstrated                      d. figured out
- 10- Satellite pictures has helped modern ..... to predict weather conditions.  
 a. astronomy                      b. physics                      c. cosmology                      d. meteorology

**B. Find the best meaning of the following words:**

- 11- Significance  
 a. importance                      b. idea                      c. progress                      d. difficult

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12- Arise

- a. send out                      b. figure out                      c. appear                      d. deep

13- Verify

- a. converse                      b. confirm                      c. conform                      d. confine

14. Depict

- a. show                      b. come together                      c. consist of                      d. limited

15- Exert

- a. exactly                      b. accurate                      c. the act of moving                      d. bring a force into use

**C. Read the following passage and then answer the questions by choosing the best choice:**

A sensitive device for detecting the presence of unbalanced electric charge is the electroscope, an electrically isolated metal system. One end of the system is accessible to the experiment, and the other end is usually sealed and has some delicate arrangement for the detection of unbalanced charge. The earliest such systems used a very thinner sheet than any other material. If a charged rod is brought near the knob of an electroscope, the bottom of the gold leaf deflects or stands away from the plate to which it is attached, indicating that there are unbalanced charges at the bottom of the electroscope and the gold leaf is being repelled from the plate. If the charged rod is withdrawn, the leaf collapses to its rest position once again.

16- The passage presents a/an

- a. argument                      b. definition                      c. description                      d. classification

17. What part of the device is not closed?

- a. one side                      b. one end                      c. two ends                      d. no part

18- The word "it" in line 6 refers to

- a. gold leaf                      b. knob                      c. rod                      d. plate

19- The word "deflect" in line 5s refers to

- a. remove                      b. attract                      c. make progress                      d. change direction

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مجاز است.

استفاده از: —

20- Gold was in the system because it

- a. can be made thin  
b. is easily charged  
c. is easily attached to any metal  
d. is very sensitive to electric charge

D. Translate the following passages into Persian: ۱/۷۵ سوال

1.

Significant figures are crucial when the results of measurement must be manipulated mathematically. For instance, suppose the length and width of a bedroom is measured to be 4.1 m and 3.0 m. We might wish to report the floor area as  $12.3 \text{ m}^2$ . This would be wrong, since we cannot gain precise (number of significant figures) by multiplying. Thus, we should drop the last digit and report the area as  $12 \text{ m}^2$ . This is part of a technique called rounding off.

2.

The remarkable ability of migratory birds to navigate accurately over distances of thousands of miles has given rise to speculation that they have a built-in magnetic compass. Thus far, physiological research has failed to find any organ in birds - or in man, for that matter - that senses the direction of a steady magnetic field.

3.

For macroscopic systems it is convenient to make a distinction between particle motion and wave motion. Newtonian mechanics originated in the study of the motion of particles (or of rigid bodies comprising set of particles). Later Newtonian mechanics was found to be equally useful in treating the motion of mechanical waves, even though waves are very different from particles.

4.

In 1905 Einstein proposed a theory of the photoelectric effect which agreed with the results of the few crude measurements then available and subsequently proved to be in agreement with the accurate measurements that Millikan and others made later.