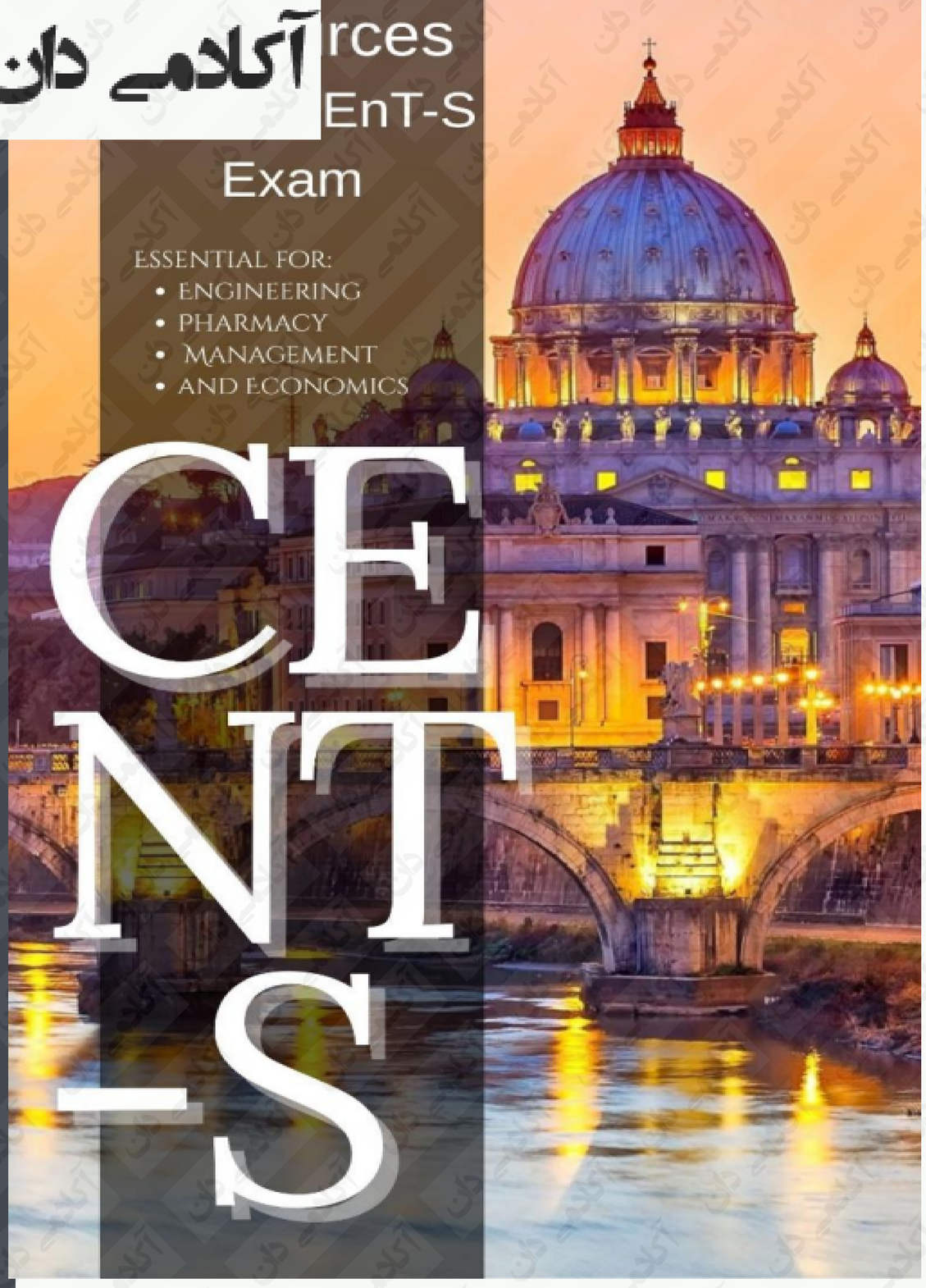


**منابع اختصاصی آزمون سنت اس**

**نمونه سوالات کامل.**

**درسنامه و برنامه ریزی خودآموز**

**دوره های کامل آموزشی**

**آزمون های شبیه سازی شده**

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# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**01** If $\log_4{2} = a$ and $\log_4{3} = b$, then $\log_4{24}$ is equal to:

A

B

C

D

E

29:59

0/15

Section Timer

Answered questions

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

02 Let $x$ be a positive real number and $ f(x) = \log_{10} x$.

Then $f\left(10 \cdot x^{- 2}\right)$ is equal to:

A

B

C

D

E

29:44
0/15

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**03** The shares of three companies A, B, C had the same unit price two years ago. After one year, the price of A decreased by 10%, the price of B by 20%, and the price of C by 30%. The following year, A decreased by 30%, B by 20%, and C by 10%. Which of the three shares has the highest price today?

A

B

C

D

E

29:38

0/15

Section Timer

Answered questions

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**04** We have $8$ numbers. Let $m$ denote their arithmetic mean. If we add another number $x$, the mean increases by $3$.
Then surely:

A

B

C

D

E

29:35
0/15

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**05** Consider these three numbers:

$$7 \qquad \sqrt{47} \qquad \sqrt{3}+\sqrt{27}$$

Which of the proposed relationships is correct?

A

B

C

D

E

29:29

0/15

Section Timer

Answered questions

MATHEMATICS

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

READING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**06** How many points $P(x;y)$ of the Cartesian plane satisfy the following conditions?

$(x+y)^2=1,\quad x^2+y^2=1,\quad x+y\leO$

A

B

C

D

E

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**07** If $f(x)=x^2-x^3$, then $f(x-2)$ is equal to:

A

B

C

D

E

29:20

0/15

Section Timer

Answered questions

**08** Consider the following system of equations in the real variables $x$ and $y$:

$$\begin{cases} x + 2y = 3 \\ 2x + ay = 4 \end{cases}$$

where $a$ is a real parameter. For what values of $a$ the system has no real solutions?

A

B

C

D

E

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**09** If $f(x) = \left| 5-3x\right|$, then $f(2)$ is equal to:

A

B

C

D

E

29:13

0/15

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**10** The expression

$$\dfrac{\Bigl(3^{20} + 3^{20} + 3^{20}\Bigr)^{\large\frac{1}{3}}}{(3^3)^2}$$

is equal to:

A

B

C

D

E

29:08

0/15

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**11** Consider two distinct polynomial $p(x)$ and $q(x)$ of degree $3$ with real coefficients.
Which of the proposed statements is certainly correct?

A

B

C

D

E

29:03
0/15

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**12** If $a$ and $b$ are two real numbers such that $O{,}35\,a = O{,}2\,b$, what is the value of $b$ expressed in terms of $a$?

A

B

C

D

E

28:59

0/15

Section Timer

Answered questions

MATHEMATICS

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

13 In the Cartesian plane, consider the triangle enclosed by the straight lines $r_1:\,\, y=0$, $r_2:\,\, y=2x$, $r_3:\,\, y=-x+7$ . Which of the proposed points lies inside this triangle?

A

B

C

D

E

28:55
0/15

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**14** The Cambridge University Boat Club has a crew of six rowers, all equally skilled and working well together. Four of them must be chosen to represent Cambridge at The Boat Race against Oxford. How many different ways are there to choose this delegation?

A

B

C

D

E

28:51

0/15

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

REASONING ON TEXT AND DATA

BIOLOGY

CHEMISTRY

PHYSICS

**15** Consider an equilateral triangle $ABC$ whose side is $2\,\mathrm{cm}$ long.
Let $D$, $E$, and $F$ be the midpoints of $AB$, $BC$, and $AC$ respectively. Find the area of the rhombus $DECF$.

A

B

C

D

E

28:46

0/15

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

01 A chemist is studying an orange-colored solution and realizes that it contains sodium or potassium (or both). She also knows that, if the solution does NOT contain sodium, it must contain iron; and that, if it contains potassium, it contains iodine as well. Which of the proposed scenarios is possible?

A

B

C

D

E

29:59

0/15

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

02

Mark carefully analyzed his financial portfolio and found out that every time the European Central Bank (ECB) increases its discount rate by a decimal point his revenue decreases by 100 €. On the other hand, if the ECB lowers its discount rate by a decimal point his revenue increases by 65 €.

In February 2012 (leap year) the ECB has not changed the discount rate for 19 days; when it did change the rate, the variation was always of a single decimal point.

Assuming the ECB can vary its discount rate only once a day, how many times did it make a positive change in the rate if Mark's revenue increased by 155 € at the end of the month?

A

B

C

D

E

29:52

0/15

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

**03** A survey is conducted among all 1000 inhabitants of the town of Sparagna who are older than 55.
The results show that 40% of them own a fridge, 25% of them own a TV, and 15% of them own both.
Therefore, in the town of Sparagna:

A

B

C

D

E

29:45
0/15

Section Timer
Answered questions

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

04 The table shows the nutritional values printed on a packet of biscuits (some data is missing). The last column indicates the percentage of the Nutritional Reference Values (NRV) of each nutrient for 100 g of product (i.e. the percentage of the suggested daily intake for that nutrient in 100 g of product).

| Nutritional values for: | 100 g | 1 biscuit (8,5 g) | %NRV (100 g) |
|---|---|---|---|
| Fats | 19 g | | |
| Carbohydrates | 66 g | 5,6 g | |
| Fibres | 2,4 g | | |
| Proteins | | 0,6 g | |
| Iron | 2,27 mg | | 18% |
| Phosphorus | 136 mg | | 20% |

What percentage of the NRV of iron does one biscuit contain?

A

B

C

D

E

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

05 The sum of the ages (taken as integer numbers) of ten people of age (i.e. 18 or older) is equal to 380 years. Therefore we can deduce that:

A

B

C

D

E

29:37

0/15

Section Timer

Answered questions

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

06 A third of the members of the Administrative Board of a company voted in favor of the restructuring plan; three quarters of the members of the same Board voted in favor of the budget approval. Therefore we can be sure that:

A

B

C

D

E

29:32
0/15

Section Timer
Answered questions

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

07 Uncle Scrooge forgot the *combination* that opens his electronic vault.
He only remembers that:

- the combination is made by 4 different digits (from 0 to 9)
- it does not contain 4
- the third digit is half of the fourth
- the digits are in ascending order from the first one to the last one

What is the minimum number of attempts Uncle Scrooge has to make to be sure to open his vault?

A

B

C

D

E

29:27
0/15

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

08

30% of the students enrolled in a university course passed the final exam during the first session. 10% of the remaining students passed the exam during the second session.
How many students still have to pass the exam after the first two sessions?

Express the result as a percentage of the total number of students enrolled in the course.

A

B

C

D

E

29:23
0/15

Section Timer
Answered questions

09

In a gym, three courses are always available, and it is possible to sign up for one month or three months. Additionally, there are discounts for those who sign up for two or three courses simultaneously. The table summarizes the gym's rates in various cases:

| | 1 month | 3 months |
|---|---|---|
| 1 course | € 45 | € 120 |
| 2 courses | € 75 | € 195 |
| 3 courses | € 95 | € 255 |

Now, Jessica attends two courses simultaneously in that gym, signing up for only one month, each month. She wants to know how much she would spend, per month, by signing up simultaneously for three courses for three months, compared to what she spends now.

What quantities should she compare?

A

B

C

D

E

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

| | | | | |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 |

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

10 To successfully register for an exam, it is necessary that each student follows an online procedure or arrives two hours before the exam on the chosen date. This is *equivalent* to saying that:

A

B

C

D

E

29:14

0/15

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

11 On a table there are six jars that contain ten colored balls each. At least four balls in each jar have the same color. Therefore we can certainly say that:

A

B

C

D

E

29:09
0/15

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

12

We want to balance a two-arms scale by using some spheres with the same size but different weight depending on their color (white, red, or green).
The first attempt indicates that 2 white spheres together with 1 red sphere balance 2 red spheres and 1 green sphere exactly.
Now we put 1 white sphere, 1 red and 1 green on the left plate of the scale, and 2 white spheres on the right one.

Which of the listed actions allows us to balance the scale?

A

B

C

D

E

29:04
0/15

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

13 *Archaebacteria* are single-celled organisms that live in ponds and reproduce by fission (i.e. each bacterium splits in two identical organisms).
If you put one *archaebacterium* in a certain pond, it will reproduce by fission once a day; in 30 days, the whole pond surface will be completely covered by bacteria.
How many days will it take to cover the whole surface, if we initially put two bacteria in the pond?

A

B

C

D

E

28:59
0/15

Section Timer
Answered questions

14 Consider the following numbers:

$$
28 ,\ 29 ,\ 36 ,\ 43 ,\ 55
$$

We want to order them so that each odd number is in an odd position, and each even number is in an even position.
How many ways are there to order them given this condition?

A

B

C

D

E

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

1 2 3 4 5
6 7 8 9 10
11 12 13 14 15

END SECTION

BIOLOGY

CHEMISTRY

PHYSICS

15 The great mathematician Countalot discovered the *Incredible* numbers; he does not know yet if they are finite or infinite, but he made the following conjecture:

*If they are infinite, then at least one of them has 8 distinct prime factors.*

One of his students, Countagain, showed that Countalot's conjecture is FALSE. Therefore he proved that:

A

B

C

D

E

28:50
0/15

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5
6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**01** Which of the double-strand DNA fragments proposed is most resistant to heat denaturation?

A

B

C

D

E

19:57
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5
6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**02** What is a characteristic property of muscle cells in voluntary muscles?

A

B

C

D

E

19:53
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5
6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**03** How is $O_2$ release by haemoglobin regulated in tissues?

A

B

C

D

E

19:40
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5
6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**04** In a marine ecosystem, tiger sharks feed on sea turtles, sea turtles feed on algae, and fish lay their eggs on algae. If most tiger sharks were killed by fishermen, what would most likely happen in this ecosystem?

A

B

C

D

E

19:28

0/10

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5
6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**05** In animal cells, where is respiration carried out?

A

B

C

D

E

19:18
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5

6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**06** Which one of the following statements correctly describes the process of active transport across the plasma membrane?

A

B

C

D

E

19:14

0/10

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5

6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**07** Which molecule, among those listed, is composed of the highest number of different chemical elements?

A

B

C

D

E

19:09

0/10

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5

6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**08** Which one of the molecules proposed is produced both during photosynthesis and cellular respiration?

A

B

C

D

E

18:58

0/10

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5
6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**09** Which type of cell division involves two consecutive divisions not separated by a phase of DNA synthesis?

A

B

C

D

E

18:52
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT AND DATA

BIOLOGY

1 2 3 4 5

6 7 8 9 10

END SECTION

CHEMISTRY

PHYSICS

**10** Many biomolecules, including carbohydrates and amino acids, are chiral. What is a chiral molecule?

A

B

C

D

E

18:45

0/10

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5
6 7 8 9 10

END SECTION

**01** Which of the following molecules has the same molecular geometry as ozone ($O_3$)?

A

B

C

D

E

19:59
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5
6 7 8 9 10

END SECTION

**02** Which of the listed compounds has a higher mass percentage of oxygen than $CO_2$?

A

B

C

D

E

19:51
0/10

Section Timer
Answered questions

03 Slow weighing can lead to inaccurate measurement of NaOH in an analytical balance. This is because NaOH, when exposed to air for a prolonged time:

A

B

C

D

E

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT

BIOLOGY

CHEMISTRY

1 2 3 4 5
6 7 8 9 10

END SECTION

PHYSICS

04 Which of the listed options is a redox reaction?

A

B

C

D

E

19:28
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS

REASONING ON TEXT

BIOLOGY

CHEMISTRY

1 2 3 4 5

6 7 8 9 10

END SECTION

PHYSICS

**05** Consider 1 mol of molecular chlorine reacting with 1 mol of molecular hydrogen according to the following equation:

$$Cl_2 + H_2 \rightarrow 2\ HCl$$

How many molecules of HCl are produced?

A

B

C

D

E

19:23

0/10

Section Timer

Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5
6 7 8 9 10

END SECTION

**06** Consider the following reactions:

1. $Na_2O + H_2O \rightarrow 2\ NaOH$
2. $Na_2O + CO_2 \rightarrow Na_2CO_3$
3. $Na_2O + 2\ HCl \rightarrow 2\ NaCl + H_2O$

Which of these produces a salt?

A

B

C

D

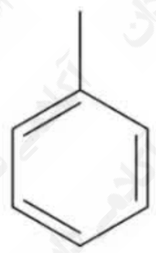
E

19:20
0/10

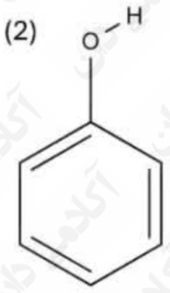
Section Timer
Answered questions

**07** Which of the following structures (numbered from 1 to 5) corresponds to Toluene?

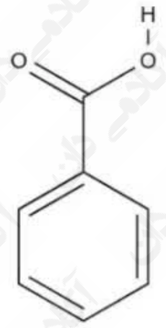
(1)



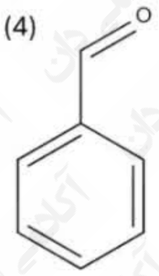
(2)



(3)



(4)



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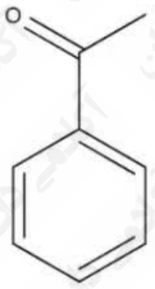

A

B

C

D

E

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5
6 7 8 9 10

END SECTION

**08** A vessel contains a mixture of only two gases, $N_2$ and $CO_2$, at atmospheric pressure and room temperature. Nitrogen represents 70% by volume, while carbon dioxide accounts for 40% by weight. What is the partial pressure of $CO_2$?

A

B

C

D

E

19:13
0/10

Section Timer
Answered questions

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5
6 7 8 9 10

END SECTION

09 Lithium (Li) and Oxygen (O) are elements in the same period of the periodic table. Lithium and Cesium (Cs) are both alkali metals. The first ionization energy of Li is:

A

B

C

D

E

19:04
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5
6 7 8 9 10

END SECTION

**10** Which of the listed calcium compounds is the main component of natural pearls and can produce effervescence when reacting with HCl?

A

B

C

D

E

19:00
0/10

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5

SUBMIT

**01** Two forces with magnitude $1 \;\mathrm{N}$ and $2 \;\mathrm{N}$ are applied at the same point particle with an angle of $60^\circ$ between them. What is the magnitude of the resulting force?

A

B

C

D

E

09:56
0/5

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5

SUBMIT

**02** On a table, there are some cylindrical containers with different sizes, all filled with water up to the brim. Ignoring the weight of the containers, which one of them has the highest pressure at the bottom?

A

B

C

D

E

09:52
0/5

Section Timer
Answered questions

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5

SUBMIT

**03** An electron, free to move and initially still, inside a uniform and constant electrical field:

A

B

C

D

E

09:41
0/5

Section Timer
Answered questions

04 A force acting on a point particle, always perpendicular to its displacement:

A

B

C

D

E

05 A car, initially still, starts moving with a constant acceleration of $2\;\mathrm{m/s^2}$. At the same instant, the car is overtaken by a bicycle moving with a constant speed of $8\;\mathrm{m/s}$. At what distance from the starting point will the car catch up with the bicycle?

A

B

C

D

E

آکادمی دان

# CENT-S SAMPLE TEST

MATHEMATICS
REASONING ON TEXT
BIOLOGY
CHEMISTRY
PHYSICS

1 2 3 4 5

SUBMIT

**05** A car, initially still, starts moving with a constant acceleration of $2\;\mathrm{m/s^2}$. At the same instant, the car is overtaken by a bicycle moving with a constant speed of $8\;\mathrm{m/s}$. At what distance from the starting point will the car catch up with the bicycle?

A

B

C

D

E

09:29
0/5

Section Timer
Answered questions