GuyAI
מבית GOOL בגרויות

סוג הבחינה: בחינת גמר ממלכתית
מועד הבחינה: אביב 2024 מועד א' (פעימה שנייה)
סמל השאלון: 99911
שם התלמיד/ה: _____

אנגלית

מכינה טכנולוגית · מכינה טכנולוגית

הוראות

א. משך הבחינה: שלוש שעות.

ב. מבנה השאלון ומפתח ההערכה: בשאלון זה ארבעה חלקים: חלק א' - הבנת הנקרא - 35 נקודות חלק ב' - הבנת הנקרא - 25 נקודות חלק ג' - אוצר מילים וכתיבת משפטים - 24 נקודות חלק ד' - הוראות - 16 נקודות

ג. חומר עזר מותר בשימוש: מילון דו-לשוני (אנגלית - שפת אם) רגיל או אלקטרוני. המילון יהיה ללא חומר האסור בשימוש או אפשרות לגלישה באינטרנט. חל איסור להשתמש בתרגומון מכל סוג שהוא (לדוגמא: קוויקשנרי).

ד. הוראות מיוחדות: הוראות מיוחדות: 1. יש למלא את כל הפרטים הנדרשים בדף המקדים המצורף לשאלון זה. 2. תשובות יש לכתוב רק בתוך שאלון זה ולא במחברת בחינה, גם אם ניתנה לכם. הוראות כלליות: 1. יש לקרוא בעיון את ההנחיות ואת השאלות בבחינה, ולוודא שהן מובנות לכם. ניתן לענות על השאלות לפי הסדר הרצוי לכם. 2. יש לכתוב את התשובות בעט כחול או שחור בלבד ובכתב יד ברור. 3. אין לסמן או להדגיש תשובות במרקר. 4. אין לתלוש דפים משאלון הבחינה.

השאלות בשאלון זה מנוסחות בלשון רבים, אף על פי כן על כל תלמידה וכל תלמיד להשיב עליהן באופן אישי.

בהצלחה!

השאלות

1. Part I – READING COMPREHENSION (A)

Read the following passage carefully and answer the questions in English. (35 points)

קראו את הקטע שלפניכם וענו על השאלות שאחריו באנגלית.

Robot Inspector Checks Bridges

I

In many cities, the bridges are old. Inspectors must check these bridges frequently to find defects and fix them before the bridge collapses. Inspectors check the surface of the bridge to find dangerous cracks*; they also drill deep into the bridge to reach and check the steel structures that support it. As a result, bridge inspection is very expensive. In addition, bridges need to be closed to vehicles during the inspection. Another problem is that sometimes inspectors make mistakes. For example, in 2007, engineers inspected a bridge in Minnesota, U.S.A., but missed a defect in the bridge. The bridge collapsed, and unfortunately, 13 people were killed.

*cracks - סדקים

II

To help find defects in bridges, Spencer Gibb at the University of Nevada built a robot inspector. The robot moves along the side of the road on wheels without stopping car traffic. The robot uses a camera to find cracks on the surface of the bridge and uses radar to find defects in the steel structures inside the bridge. Then, the robot creates a color-coded map of the bridge to show where there are problems and sends this map to engineers. After they look at the data in the map, the human engineers decide if the bridge needs fixing and how to fix **it**.

III

The researchers tested the robot on four old bridges in the U.S. In the test, the robot took the same amount of time to check the bridges as a human, but it processed the data much faster than a human. Additionally, in the test, the robot made fewer mistakes than humans. This test showed that the robot is an effective solution to the problem of bridge inspection.

IV

In addition to the robot inspector, there are other technologies for inspecting bridges. There are special drones that fly over bridges to look for defects. And in some new bridges, smart sensors send automatic warnings to engineers about defects. All these technologies are helping to make bridges safer.

Adapted from: New Scientist

Answer the following questions in English. (35 points)

ענו על השאלות הבאות באנגלית.

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A. Why is it important to inspect old bridges often? (paragraph I)

(4 נקודות)

B. How do inspectors reach the structures that support a bridge? (paragraph I)

(2 נקודות)

C. List 3 problems with bridge inspection: (paragraph I)

1. ____

2. ____

3. ____

(6 נקודות)

D. The bridge in Minnesota collapsed because the inspectors did not find a _____ in the bridge. (paragraph I)

(2 נקודות)

E. Which of the following statements are TRUE? Check (✓) 2: (paragraph II)

1. When the robot inspector is checking a bridge, traffic on the road needs to ____ stop.

2. The robot's camera takes pictures of the structures that are deep under the ____ bridge.

3. The robot uses radar to find defects that cannot be seen on the surface of the ____ bridge.

4. Humans decide what to do about the bridge after looking at a map sent by the ____ robot.

(8 נקודות)

F. What does the word **it** in line 13 refer to?

(2 נקודות)

G. What is the **main idea** of paragraph III? Circle the correct answer:

a. The robot inspector made fewer mistakes than human inspectors do.

b. The test showed that the robot is an effective way to inspect bridges.

c. In the test, the robot inspector checked four old bridges in the U.S.A.

d. The robot inspector checked the bridges faster than human inspectors.

(4 נקודות)

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H. Mark the following statement **True** or **False**: (paragraph III) (1+3 points)

(a) Circle the correct answer:

The analysis of information was quicker when it was done by a robot. TRUE / FALSE

(b) Support your answer from the text:

(4 נקודות)

I. What is the function of smart sensors in new bridges? (paragraph IV)

(3 נקודות)

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2. Part II – READING COMPREHENSION (B)

Read the following passage carefully and answer in ENGLISH. (25 points)

קראו את הקטע שלפניכם וענו על השאלות שאחריו באנגלית.

Bicycles in the City

I

More and more people in cities are using bicycles as a method of transportation. The city of Amsterdam designed lanes that are safe for cyclists,* and now, 40% of trips in the city are by bicycle. In Copenhagen, 37% of people cycle to work every day after the city built 400 kilometers of special bicycle roads.

*cyclists - רוכבי אופניים

II

Cycling reduces air pollution. Compared to driving a car, cycling releases 1 ton less greenhouse gases each year for every cyclist. In addition, cyclists are healthier than car drivers. A person can burn 400-1000 calories per hour by cycling, and a person who cycles to work has a 51% lower chance of dying from heart disease and a 15% lower chance of feeling depressed.

III

Some people think that cyclists breathe a lot of harmful carbon monoxide* from car exhausts*, but research found that drivers breathe 60% more carbon monoxide than cyclists. Moreover, in cities with many cyclists, fewer people are killed on roads because there are fewer cars. Between 1990 and 2010, the number of cyclists in the city of Portland doubled and the number of people killed in car accidents dropped by 75%. So start cycling!

*carbon monoxide - פחמן חד חמצני

*car exhausts - אגזוז של רכב

Adapted from: Discerning Cyclist and Wired

Answer the following questions in English. (25 points)

ענו על השאלות הבאות באנגלית.

A. Many people have started using bicycles for _____ inside the city. (paragraph I)

(2 נקודות)

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B. Some cities made changes to encourage more people to ride bicycles. Fill in the following table: (paragraph I)

-	Name of city	Which change did the city make?	What was the result?
1.	___	___	40% of trips in the city are by bicycle
2.	___	built 400 kilometers of special bicycle roads	___

(8 נקודות)

C. What does **1 ton** represent? Circle the correct answer. (paragraph II)

a. The decrease in greenhouse gases every year if one person cycles instead of driving.

b. The amount of greenhouse gases released into the air by one bicycle rider every year.

c. The increase in greenhouse gases every year if people use bicycles instead of driving.

d. The amount of greenhouse gases released into the air by one car driver every year.

(4 נקודות)

D. Support each of the following statements from the text: (paragraph II)

-	Statement	Support from the text
1.	Cycling is good for a person's heart	___
2.	Cycling burns a lot of calories	___
3.	Cycling is good for mental health	A person who cycles to work has a 15% lower chance of feeling depressed

(4 נקודות)

E. Mark the following statement **True** or **False**: (paragraph III) (1+3 points)

(a) Circle the correct answer:

Cyclists breathe less carbon monoxide than car drivers. TRUE / FALSE

(b) Support your answer from the text:

(4 נקודות)

F. What happened when the number of cyclists in Portland increased? (paragraph III)

(3 נקודות)

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3. Part III- Vocabulary and Unscrambling Sentences

Total Points: (24 points)

Part A (18 points)

In each question match three items 1-6 to the definitions on the right.

Write the number of the item next to its definition. (3 points each)

בכל שאלה התאימו שלושה פריטים 1-6 להגדרות מימין.

כתבו את מספר הפריט ליד ההגדרה שלו. (3 נק' לכל אחד)

1.

1. mention
2. achieve
3. collect
4. invite
5. force
6. reduce

___ to make something smaller or less

___ to successfully reach a result or goal

___ to ask someone to come to an event

(9 נקודות)

2.

1. income
2. scientist
3. equipment
4. description
5. injury
6. competition

___ the money a person gets for doing work

___ physical harm to the body

___ the tools or devices that are needed to do a task

(9 נקודות)

4. Part III- Vocabulary and Unscrambling Sentences

Part B (6 points)

Put the words in the correct order and copy them onto the line below. Pay attention to capitalization and punctuation. (2 points each)

סדרו את המילים בסדר הנכון והעתיקו אותן לשורה למטה. שימו לב לאותיות גדולות ולסימני פסוק. (2 נק' לכל אחת)

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1. at a young / important / learn / Children / age. / skills

(2 נקודות)

2. Extreme / for / heat / is dangerous / people. / old

(2 נקודות)

3. a big / is interesting. / Working / company / in

(2 נקודות)

5. Part IV – INSTRUCTIONS (16 points)

Read the questions below and match them to the answers that follow. (2 points each)

קראו את השאלות שמופיעות והתאימו אותן לתשובות. (2 נק' לכל אחת)

How to Save Energy in Your House

Answers:

a. Hang them up in the sun on sunny days or in a special place inside the house on rainy days.

b. Take quick showers, don't fill up the bath, and soak dirty dishes before rinsing them.

c. Because a lot of energy will be needed to cool off the food. This will raise your electricity bill.

d. You can turn off the heating and sleep under a very warm blanket.\ne. No. Shutting lights off when they are not in use saves more energy than keeping them on.

f. Gas stoves use much less energy than electric stoves, so they are best.

g. Because you will spend less money on electricity and gas.

h. Yes. Turning on the stove for one big pot uses less energy than turning it on a few times.

1. Why is it beneficial to use less energy in my house?

(2 נקודות)

2. How can I save energy on cold nights?

(2 נקודות)

3. Is it true that turning lights off and on uses a lot of energy and that it's better to leave lights on?

(2 נקודות)

4. My water heater uses a lot of energy. What can I do to use less hot water?

(2 נקודות)

5. Is it a good idea to cook large amounts of food instead of cooking a little bit every day?

(2 נקודות)

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6. **Why shouldn't I put hot food straight into the refrigerator?**

(2 נקודות)

7. **What kind of stove should I choose?**

(2 נקודות)

8. **How can I save energy drying clothes?**

(2 נקודות)

כל מבחני מה"ט עם פתרונות מלאים: www.guyai.co.il/mahat