الاختبار التجريبي لمادة العلوم

للفصل الدراسي الأول - للعام الدراسي 2025\2026

Mock Examination for the Subject of Science

First Semester – Academic Year 2025/2026

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School المدرسة	
Class الصف	
Stream المسار	
Subject المادة	

Instructions

- Read all the questions carefully before you begin.
- Answer all questions.
- Use only blue ink.
- Calculators are not allowed unless permitted in the question.
- Ensure your handwriting is clear and your answers are well-organized.

تعليمات

- **اقرأ جميع الأسئلة بعناية قبل البدء.**
- **أجب عن جميع الأسئلة.**
- **استخدم القلم الأزرق فقط.**
- **يمنع استخدام الآلة الحاسبة إلا إذا سمح بذلك في السؤال.**
- **تأكد من وضوح خطك وترتيب الإجابات.**

السؤال Question		الدرجة Mark
MCQ (Part 1)		
(Part 2)		
1		
2		
3		
4		
5		

المجموع Total	

1- Which of the following can cause eutrophication as shown in the lake below?

No.	Reason
1	Decaying organisms fall to the bottom of the lake
2	Runoff from fertilizers used in farming
3	High rate of fish reproduction (population increase)

A. 1 & 2
B. 2 & 3
C. 1 & 3
D. 1, 2 & 3

2- Which of the following is not a human activity that cause disruption for the environment and the ecosystem equilibrium?

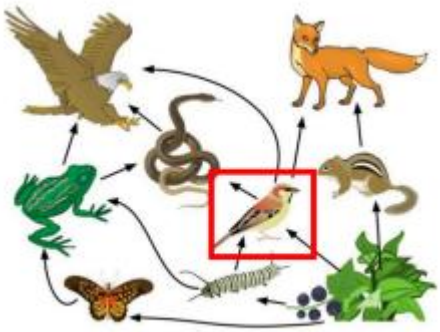
A. Forest fires

B. Resource extraction

C. Pollution

D. Nonnative species

3- In the following food web, under what category the labelled mockingbird (in the red box) is classified?



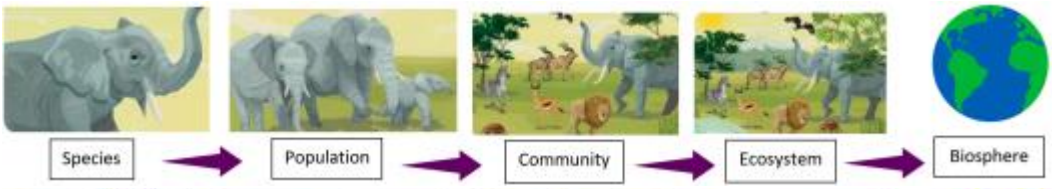
A. Carnivore
B. Omnivore
C. Detritivore
D. Herbivore

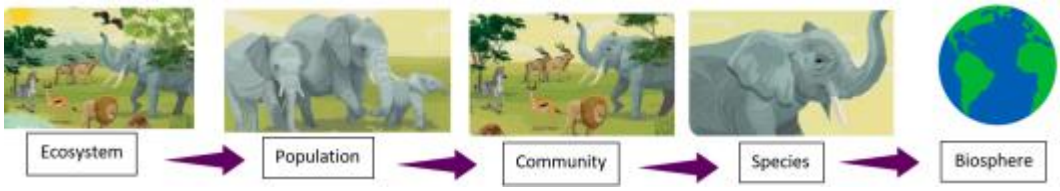
4- The figure below shows a method used to analyse the biodiversity in an area, what are some possible disadvantages of this method?

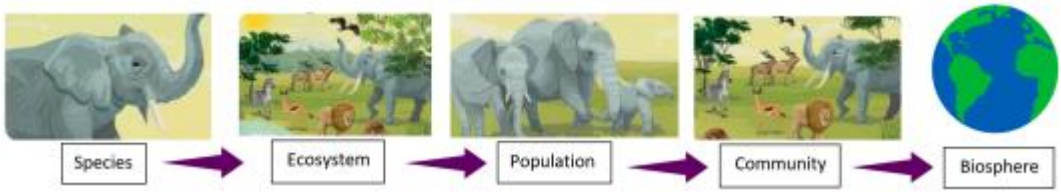
A. Organisms under the study are killed using this method
B. Need to be repeated many times in the same area
C. Organisms are release back to their environment
D. Affected by human activity (not accurate study)

5- What are the levels of organization in an environment?

A. 

B. 

C. 

D. 

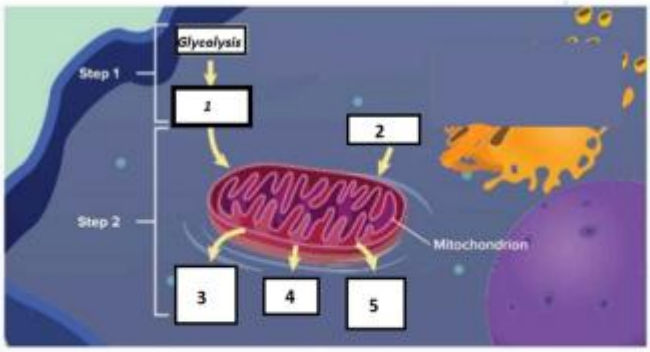
6- What is nitrogen fixation?

A. Soil bacteria make nitrogen useful for producers
B. Producers make nitrogen useful for consumers
C. Nitrogen gas in the atmosphere creates complex compounds
D. Nitrogen combines with oxygen to make a useful gas

7- Which of the following is NOT true about systems that cycle matter?

A. Living things play a role in the cycling of matter
B. Matter changes form as it cycles
C. Some matter is destroyed as it cycles through the environment
D. Matter is constantly cycling through the environment

8- Which of the following chemical equation correctly completes the below reaction that occurs in the mitochondria as shown in the figure?



.....1..... + ...2..... → .....3..... + ...4..... + ...5.....

A. $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + ATP$

B. $6H_2O + ATP \rightarrow C_6H_{12}O_6 + 6O_2 + 6CO_2$

C. $6CO_2 + ATP \rightarrow C_6H_{12}O_6 + 6O_2 + 6H_2O$

D. $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2 + ATP$

9- Which of the following is NOT true about plants' leaves?

A. The colour is green because chlorophyll reflects green light only
B. They are major food-producing organs
C. They contain stomata in the upper epidermal layer only
D. They have many different types of cells in their structure

10- New Zealand was once home to a large, flightless bird called giant moa. When humans first settled in the island they hunted the moa for food within 200 years all the giant moas has been killed.

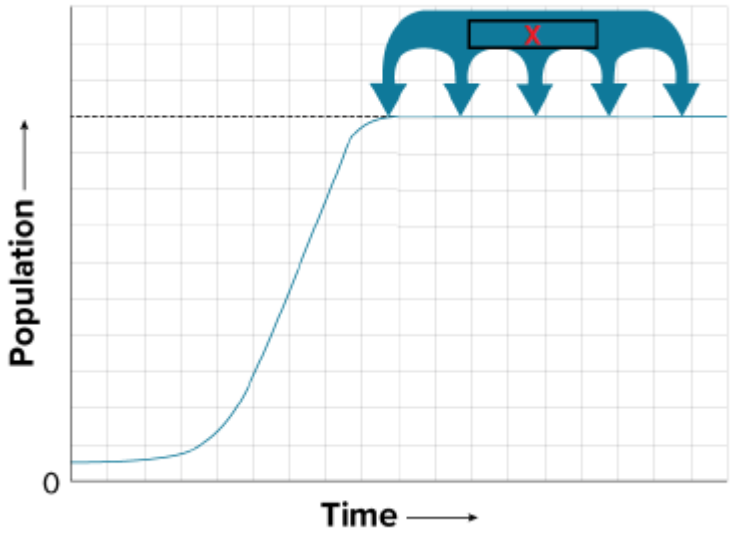
How the giant moa species classified?

A. Extinct species
B. Endangered species
C. Threatened species
D. Limited species

11- Which statement does NOT describe energy flow in ecosystems?

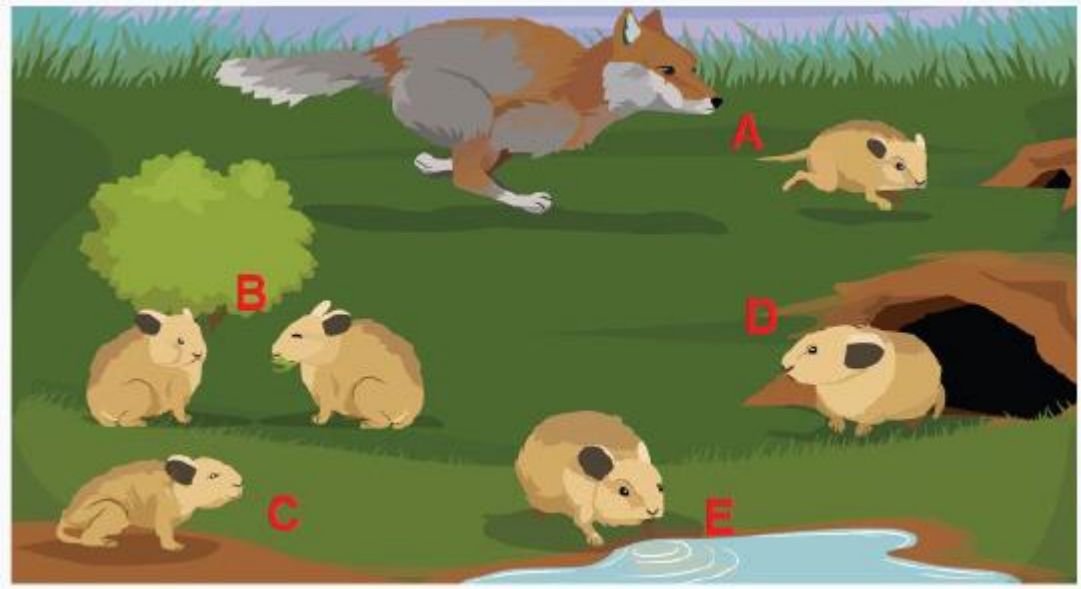
A. Energy flow usually starts with the sun
B. Energy moves from one organism to another
C. Energy moves in one direction
D. Energy is constantly recycling

12- Which of the following is labelled part by X in the graph below?



A. Biotic potential
B. Limiting factor
C. Extinction
D. Overpopulation

13- Which of the following describe how predation affects pika population?



A. It increases the population size of pikas
B. It limits the pika population size by controlling how many can survive
C. It ensures pikas have more food resources
D. It has no effect on pika population

14- Which of the following is a parasitic relationship ?

A. 

B. 

C. 

D. 

15- How do different organisms obtain energy?

A. All organisms get energy directly from the sun
B. Only plants get their energy from the sun; animals get energy by consuming other organisms
C. Organisms get their energy by absorbing it from air
D. Plants and animals both directly get their energy by photosynthesis

Section 2

Q.1

Using the water cycle, in the figure below to answer question A & B.

A. Give the correct names for the processes (1, 2, & 3) in the water cycle according to the **numbering scheme** in the figure.

Condensation	Precipitation
Evaporation	Transpiration & Exhalation

1. .....
2. .....
3. .....

B. If process number 4 did **NOT** occur, how it would affect the water cycle?

.....

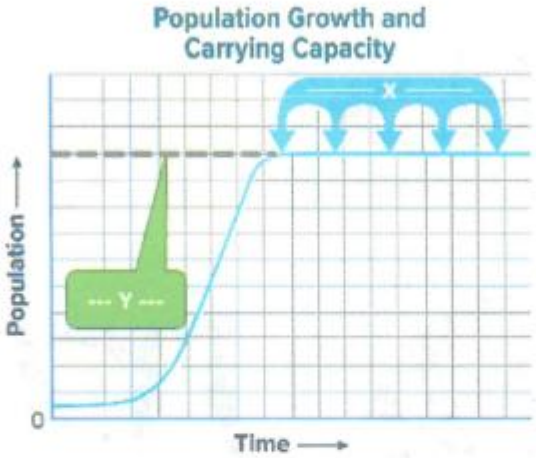
.....

.....

.....

Q.2

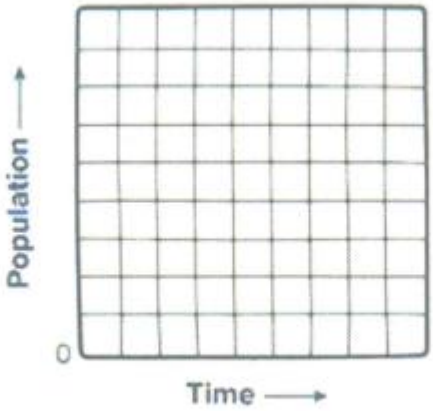
Using the below graph of population growth and carrying capacity vs. time, answer the following questions.



a. What does symbol **Y** represent? .....

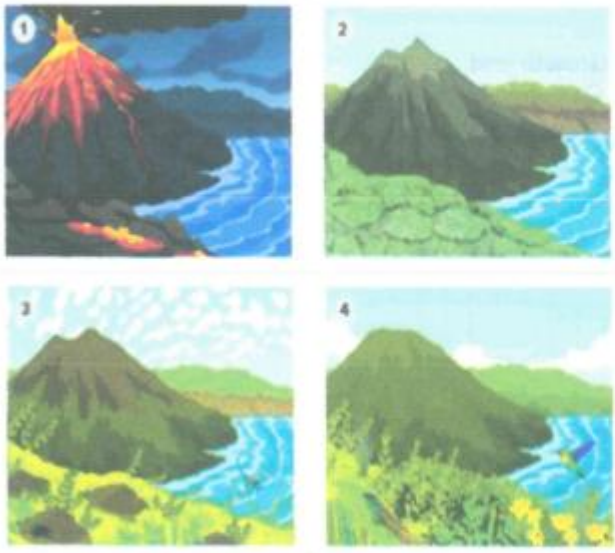
b. Give an example on symbol **X**? .....

c. Draw a line on the following grid sheet indicating a population reaching its **biotic potential**.

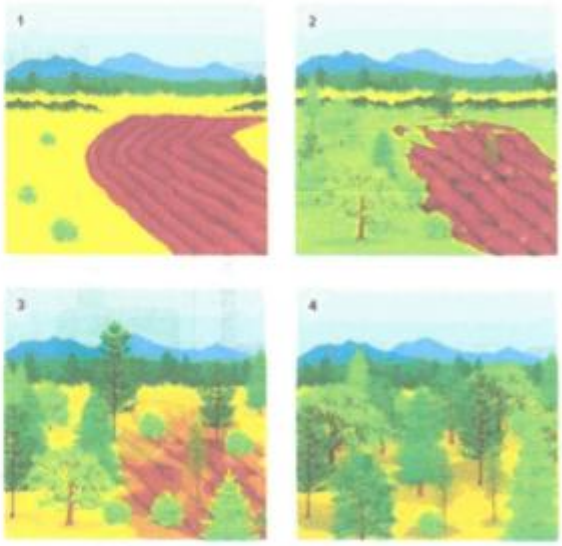


Q.3

Compare between the Ecological Successions shown in the figures by filling the table below.



Ecological Successions A



Ecological Successions B

Compare according to	Ecological Successions A	Ecological Successions B
Name	.....	.....
Presence of life in step 1	.....	.....
Area (new / old)	.....	.....
Time required to develop a climax community	.....	.....

Q.4

A. Regarding the biodiversity seen in the two figures below, answer the following questions.

i. Assign the number of the figure that shows high biodiversity and the one that shows low biodiversity?

High Biodiversity	.....	Low Biodiversity	.....

ii. What type of biodiversity is seen in figure 2?

.....

iii. Give one method on how to protect biodiversity from threats that it faces in an ecosystem?

.....

B. Calculate the biodiversity index for the following area. (Instructions: Fill the blanks in the table below and show all the steps to find the biodiversity index)

Number of Species	Number of Individuals of each species	Total Number of Individuals
.....	Species A = 30 Species B = 6 Species C = 12 Species D = 2 Species E = 1 Species F = 3	.....

.....

.....

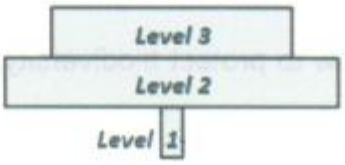
.....

.....

Q.5

C. Using the model of energy pyramid shown below, answer the following questions accordingly.

(i) Is the following diagram considered a correct representation for the energy in the model above? Explain your answer.



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(ii) What happens if the third trophic level (hawks) disappeared from the ecosystem?

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