

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS X

ANNUAL EXAMINATIONS (THEORY) 2023

General Science Paper II

Time: 1 hour 55 minutes Marks: 40

INSTRUCTIONS

Please read the following instructions carefully.

1. Check your name and school information. Sign if it is accurate.

**I agree that this is my name and school.
Candidate's Signature**

RUBRIC

2. There are ELEVEN questions. Answer ALL questions. Questions 9, 10 & 11 each offer TWO choices. Attempt any ONE choice from each.
3. When answering the questions:

Read each question carefully.
Use a black pointer to write your answers. DO NOT write your answers in pencil.
Use a black pencil for diagrams. DO NOT use colour pencils.
DO NOT use staples, paper clips, glue, correcting fluid or ink erasers.
Complete your answer in the allocated space only. DO NOT write outside the answer box.
4. The marks for the questions are shown in brackets ().

Q.1. (Total 3 Marks)

Adeel is an environmental impact assessment expert. In his village, the government has approved the construction of one of the largest dams.

As an environmental impact assessment expert, how can Adeel help to protect the natural ecosystem of his village?

Q.2. (Total 4 Marks)

a. Mention any TWO ways through which water is efficiently utilised at large scale by the government of Pakistan. (2 Marks)

b. Name any TWO reservoirs of fresh water on the Earth. (2 Marks)

Q.3. (Total 2 Marks)

Describe why a patient suffering from thalassemia shows the following symptoms.

a. Pale or yellowish skin (1 Mark)

b. Fatigue or weakness (1 Mark)

Q.4. (Total 3 Marks)

Genetic engineering has revolutionised the fields of agriculture and livestock.

Write any THREE examples to support the given statement.

Q.5. (Total 2 Marks)

State any TWO chemical changes in food products that mostly occur during food processing.

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Q.6. (Total 3 Marks)

The given label represents information about a daily use product.

ACTIVE INGREDIENTS:

Sodium Fluoride 0.243%

INACTIVE INGREDIENTS:

Water, Sorbitol, Hydrated silica, Disodium pyrophosphate, Sodium lauryl sulfate, Cellulose gum, Sodium hydroxide, Sodium saccharin, Carbomer, Mica, Titanium dioxide

a. What is the function of an active ingredient in any product? (1 Mark)

b. Identify this product based on the given active and inactive ingredients. (1 Mark)

c. Describe the role of the given active ingredient in the product identified in part b. (1 Mark)

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Q.7.

(Total 4 Marks)

Internet is a virtual networking medium that connects different devices and is used for a variety of activities.

In light of the given statement, describe any FOUR uses of internet in our daily lives.

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Q.8. (Total 4 Marks)

a. Observe the given image.



i. Identify the diagnostic test that produces the given image. (1 Mark)

ii. For which purpose do doctors suggest the diagnostic test identified in part i? (1 Mark)

b. Mention any TWO services of SUPARCO in remote sensing in different fields. (2 Marks)

Q.9.

(Total 5 Marks)

EITHER

a. The given picture shows a coastline.



Exemplify any FIVE possible interactions among environmental spheres that are illustrated in this picture.

OR

b. In a mountainous area, a lake is formed due to heavy land sliding. Thousands of tourists visit this lake and the local people have installed various food cabins and stalls. There is no system to address the environmental issues associated with tourism.

Describe how this lake would be threatened by the activities of tourists and the local people.

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Q.10.

(Total 5 Marks)

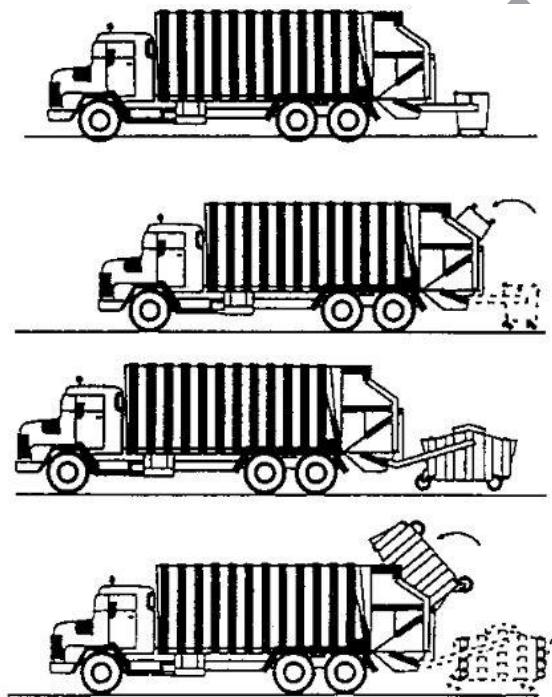
EITHER

a. Exemplify each of the following concerns related to Genetically Modified Crops (GMCs). (5 Marks)

- Human health and safety issues
- Potential damage to the environment
- Negative impact on traditional farming practice
- Excessive dominance of agricultural corporate sector
- Loss of nutrients

OR

b. The given image represents one of the types of waste management.



- i. Describe the type of waste material that can be managed by the method shown in the given image. (1 Mark)
- ii. Describe any TWO advantages and any TWO disadvantages of using the shown method. (4 Marks)

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Q.11.

(Total 5 Marks)

EITHER

a. Describe any FIVE properties of radio waves.

OR

b. Describe FIVE uses of nuclear radiations in industrial sector.

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