

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX EXAMINATION

MAY 2012

Biology Paper II

Time allowed: 2 hours 25 minutes Marks 40

INSTRUCTIONS

Please read the following instructions carefully.

1. Check your name and school information. Sign that it is correct.

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

2. RUBRIC. There are NINE questions. Answer ALL NINE questions. Questions 7, 8 and 9 each offer TWO choices. Attempt any ONE choice from each.
3. When answering the questions:

Read each question carefully.
Use a black pencil for diagrams. DO NOT use coloured 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 4 Marks)

State the role of the following in the field of biology.

i. Environmental biologist

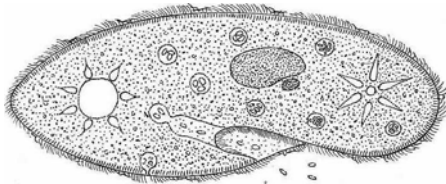
ii. Immunologist

Q.2.

(Total 4 Marks)

- a. Mention TWO formats to present the observations or results of an experiment in a biological method. (2 Marks)

- b. Give TWO structural features of the organism shown in the diagram. (2 Marks)



Q.3.

(Total 4 Marks)

a. Differentiate between rough and smooth endoplasmic reticulum.

(2 Marks)

Rough Endoplasmic Reticulum	Smooth Endoplasmic Reticulum
1.	1.
2.	2.


b. Besides being a phenomenon of cellular death, how is apoptosis beneficial for our body?

(2 Marks)

Q.4.

(Total 4 Marks)

- a. Draw a graph to show the effect of pH on the activity of a gastric enzyme, pepsin. (2 Marks)



- b. A plant was kept in a cupboard for 3 days after which one of its leaves was tested for starch.

The starch test appeared negative. Why?

(2 Marks)

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Q.5. (Total 4 Marks)

a. A person is suffering from swollen and bleeding gums.

What food items should he/she include in his/her diet to overcome this disease? (2 Marks)

b. Somalia has been affected by the destruction of its rural and urban economies for the last twenty years. The country is now facing extensive famine. According to reports, thousands of people have died from malnutrition. The lives of several million people are in danger.

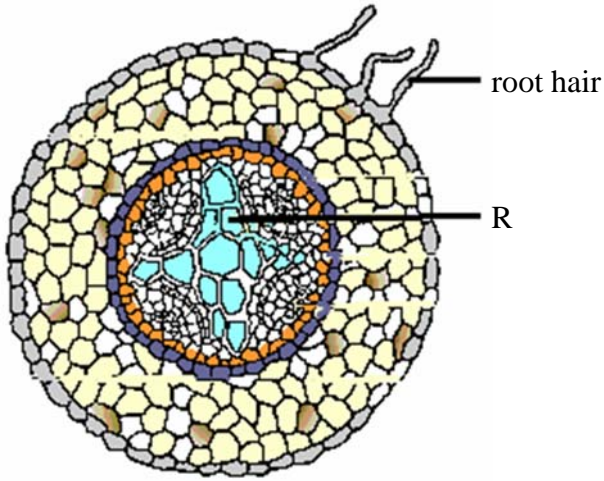
Discuss a factor that could be a reason for such state of the country. (2 Marks)



Q.6.

(Total 5 Marks)

The diagram shows the section of the root of a plant.



i. Identify the structure labelled R and state ONE function it performs in the root. (2 Marks)

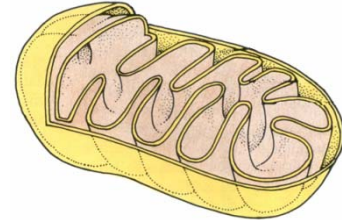
ii. State THREE main structural features that help structure R to carry out this function. (3 Marks)

Q.8.

(Total 5 Marks)

EITHER

- a. Describe in detail THREE structural features and functions of the organelle shown in the diagram.



OR

- b. Explain the process of cytokinesis in plant and animal cells during cell division.

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Q.9.

(Total 5 Marks)

EITHER

a. Explain how product(s) is/are formed in an enzyme catalysed reaction.

OR

b. An athlete in a 100 meter race experiences vigorous muscular contraction. Explain the phenomenon which enables him to reach the finish line.

END OF PAPER

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