

**AGA KHAN UNIVERSITY EXAMINATION BOARD**

**SECONDARY SCHOOL CERTIFICATE**

**CLASS IX EXAMINATION**

**APRIL/ MAY 2019**

**Biology Paper II**

**Time: 2 hours 15 minutes    Marks: 35**

**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 NINE questions. Answer ALL questions. Questions 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 pointer to write your answers. DO NOT write your answers in pencil.  
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 3 Marks)

a. Differentiate between micro-molecules and macro-molecules. (1 Mark)

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b. Classify the given molecules as micro-molecules or macro-molecules. (2 Marks)

- i. Starch
- ii. Water
- iii. Oxygen
- iv. Haemoglobin

Micro-molecule	Macro-molecule

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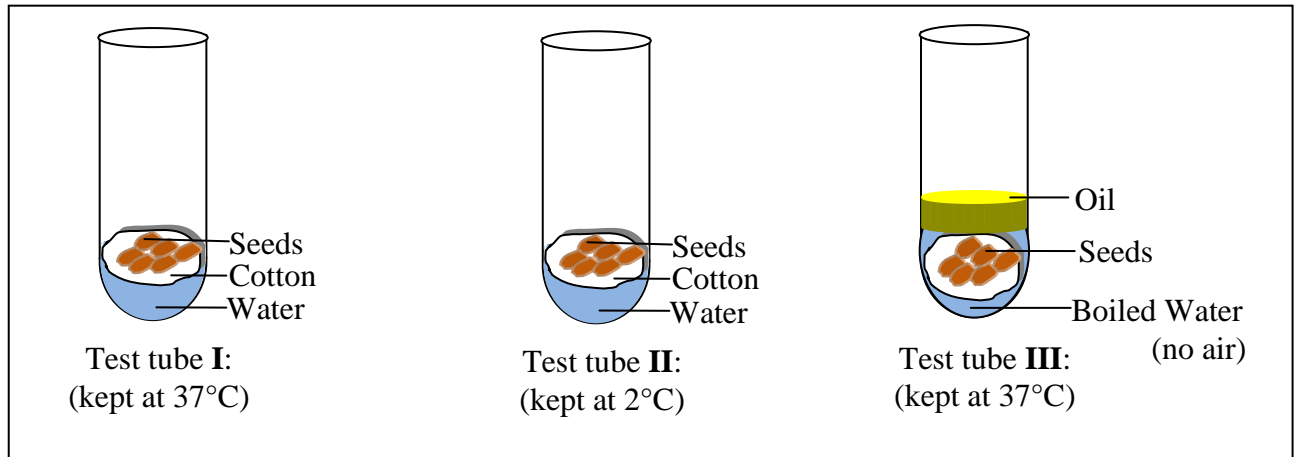
Q.2.

(Total 3 Marks)

The given diagrams show an experiment to study the conditions necessary for germination of seeds.

**Expected Result:**

Seeds in test tube **I** would germinate while there would be no germination in test tubes **II** and **III**.



Explain why

a. the seeds in test tube **I** would germinate. (1 Mark)

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b. the seeds in test tube **II** would not germinate. (1 Mark)

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c. the seeds in test tube **III** would not germinate. (1 Mark)

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Q.3. (Total 3 Marks)

List any THREE human activities that cause deforestation.

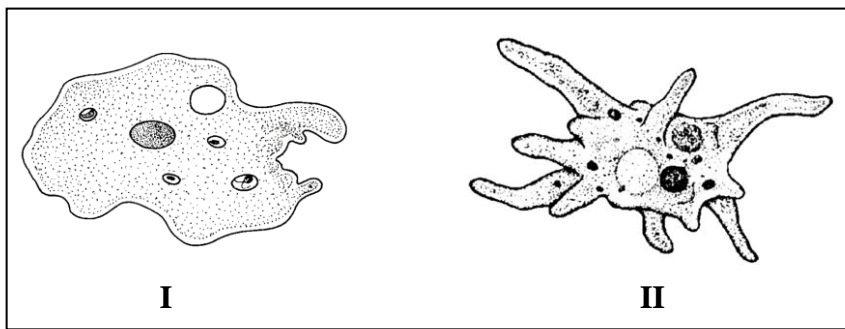
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Q.4. (Total 3 Marks)

The given diagrams show two forms of the same amoebae.



Which of the two amoebae forms, I or II, will have greater surface area? Support your answer with suitable description.

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Q.5. (Total 3 Marks)

Give ONE advantage of each of the given features of the respiratory system of human beings.

a. C-shaped rings in the walls of trachea (1 Mark)

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b. Single layer of epithelial cells in alveolar walls (1 Mark)

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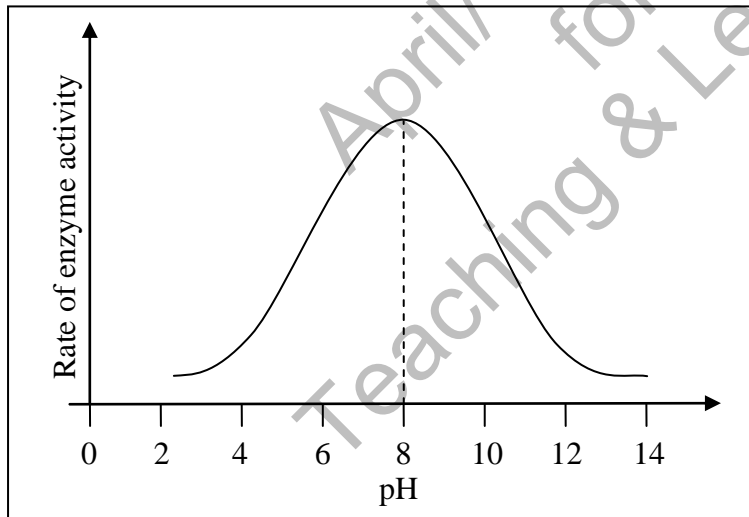
c. Mucus production in the inner walls of bronchi (1 Mark)

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Q.6. (Total 2 Marks)

The given graph shows the activity of an enzyme in the human body at different pH.



Extract any TWO interpretations from the given graph.

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Q.7. (Total 3 Marks)

Give reasons for the following adaptations of blood vessels.

a. Veins have valves. (1 Mark)

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b. Capillaries have one-cell thick epithelium. (1 Mark)

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c. Arteries have thick muscular walls as compared to veins. (1 Mark)

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Q.8.

(Total 7 Marks)

**EITHER**

a. Bacterial cell is classified as a prokaryotic cell while a plant cell as a eukaryotic cell.

With reference to the given classification, mention any **THREE** similarities and **FOUR** differences between a bacterial and a plant cell. (7 Marks)

**OR**

b.

i. Write a balanced chemical equation for photosynthesis. (1 Mark)

ii. Explain the role of the **THREE** limiting factors in photosynthesis. (6 Marks)

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