

AGA KHAN UNIVERSITY EXAMINATION BOARD

HIGHER SECONDARY SCHOOL CERTIFICATE

CLASS XI

ANNUAL EXAMINATIONS (THEORY) 2025

Biology Paper II

Time: 1 hour 30 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 ELEVEN questions. Answer ALL questions. Questions 10 and 11 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.

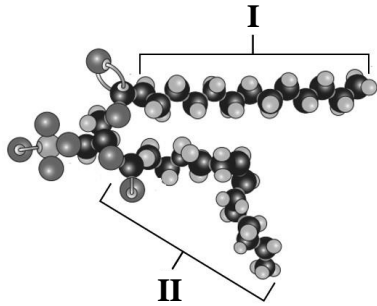
DO NOT use staples, paper clips, glue, correcting fluid or ink erasers.

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 4 Marks)

Consider the given molecular model of a phospholipid molecule.



a. Identify the types of fatty acids, **I** and **II**. (2 Marks)

Fatty acid **I**: _____

Fatty acid **II**: _____

b. Write a structural difference between fatty acids **I** and **II**. (1 Mark)

c. How do the fatty acid chains found in triglycerides differ from those of phospholipids? (1 Mark)

Q.2.

(Total 2 Marks)

Construct a graph in the given space to show the effect of pH on the activity of pepsin in the human digestive system.

Space for graph



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Q.3. (Total 2 Marks)

Give ONE example each of a plant cell and an animal cell that contain a large number of Golgi apparatus.

Plant Cell

Animal Cell

Q.4. (Total 2 Marks)

Differentiate between the polyp and medusa of coelenterates in the given table.

Characteristic	Polyp	Medusa
Body Shape		
Mode of Reproduction		

Q.5. (Total 3 Marks)

Give a reason for the following facts.

a. Lycopods are also called club mosses/ spike mosses. (1 Mark)

b. Sphenopsids are also called arthropytes. (1 Mark)

c. Advance land plants adopt heterospory. (1 Mark)

Q.6.

(Total 2 Marks)

Differentiate between C4 plants and CAM plants in the given table.

Feature	C4	CAM
Tissues Where Carbon Fixation Takes place		
Time of Stomatal Opening		

Q.7.

(Total 2 Marks)

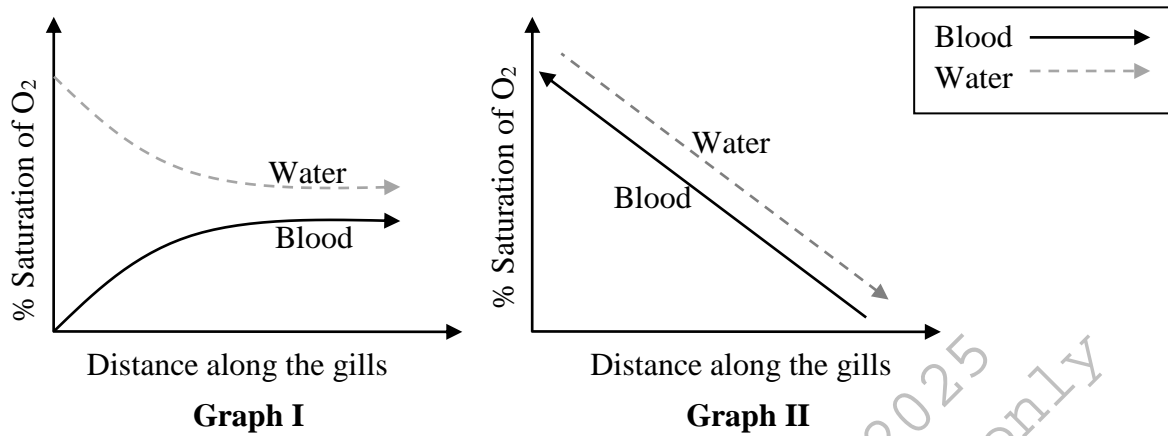
Why does an alkaline pH (around 8) is necessary for the human small intestine to function efficiently? Give TWO reasons.

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Q.8. (Total 2 Marks)

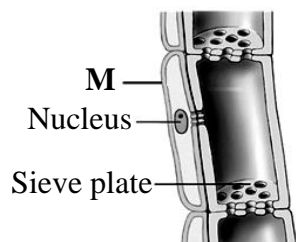
The given graphs (I and II) show two mechanisms of gaseous exchange in fish.



Which graph (I or II) represents the most efficient mechanism of gaseous exchange? Support your answer with a valid reason.

Q.9. (Total 2 Marks)

The given diagram shows some specialised cells of a plant.



Briefly describe how cell M is necessary for the functioning of the phloem.

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