

AGA KHAN UNIVERSITY EXAMINATION BOARD

HIGHER SECONDARY SCHOOL CERTIFICATE

CLASS XI EXAMINATION

MAY 2012

Biology Paper II

Time allowed: 2 hours 20 minutes Marks 55

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**

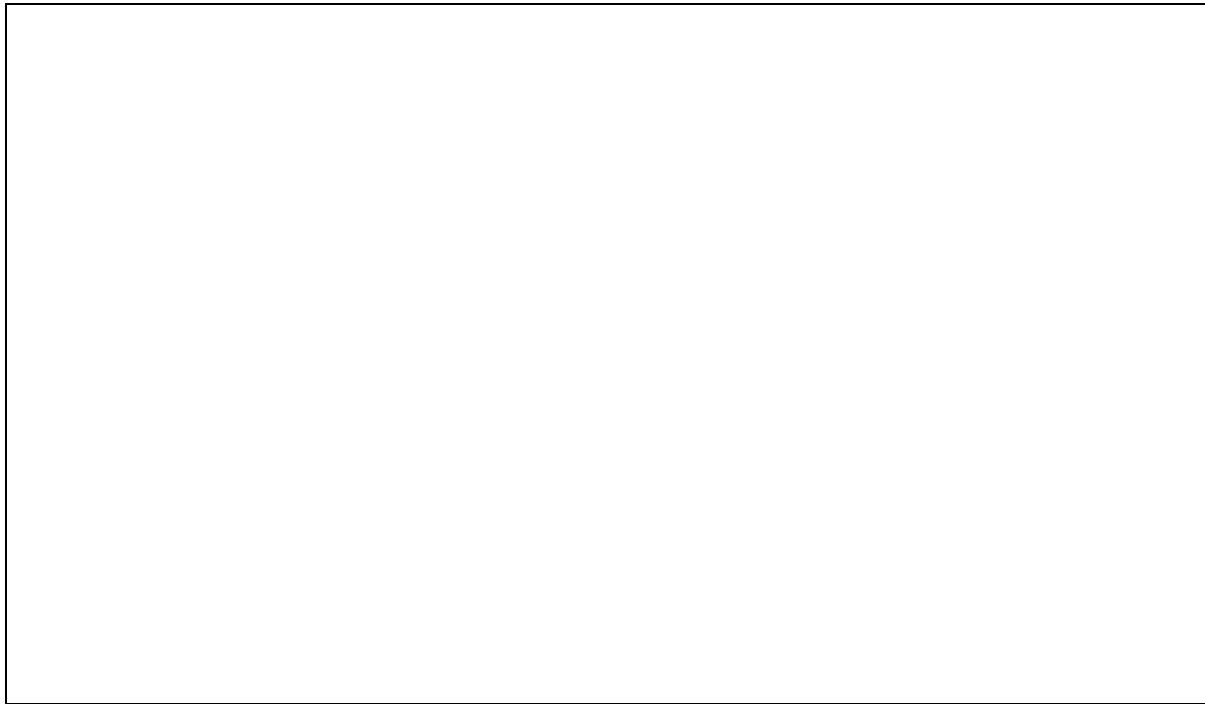
2. RUBRIC. There are TWELVE questions. Answer ALL TWELVE questions. Questions 10, 11 and 12 each offer TWO choices. Attempt any ONE choice from each.
3. When answering the questions:

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)

a. A student is interested in learning about carbon cycle, conservation of endangered species and recycling of waste. Which field of biology should he choose and why? (2 Marks)

b. Draw a diagram to show the arrangement of chains in a tertiary protein. (2 Marks)



Q.2.

(Total 4 Marks)

How do viruses survive:

i. inside the host cell?

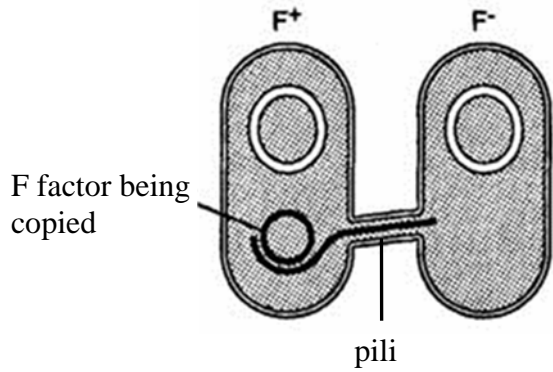
ii. outside the host cell?

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Q.3. (Total 4 Marks)

a. State any TWO roles of mesosomes in a bacterial cell. (2 Marks)

b. Describe briefly the process of reproduction in bacteria as shown in the diagram. (2 Marks)



Q.4.

(Total 4 Marks)

State any FOUR features of plant like protists.

Q.5.

(Total 6 Marks)

a. Describe how mycorrhizal association is an example of mutualism.

(3 Marks)

b. Fill in the following information for ascomycetes.

(3 Marks)

Group: Ascomycetes

Hyphae: _____

Sexual reproduction: _____

Asexual reproduction: _____

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Q.6. (Total 5 Marks)

a. What do you mean by the term 'pentamerous'? (1 Mark)

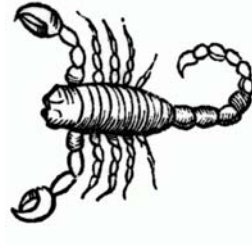
b. Given are the characteristics of a plant of family Y. Draw EACH characteristic separately to see what the flowers of family Y would look like. (Do NOT draw the floral diagram) (4 Marks)

Inflorescence: Solitary	Flower: Zygomorphic	Androecium: Diadelphous	Gynoecium: Superior ovary

Q.7.

(Total 5 Marks)

- a. Mention **THREE** exclusive features of the animal shown in the diagram which make it different from other arthropods. (3 Marks)



- b. Describe the role of NAD in Kreb's cycle. (2 Marks)

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Q.8. (Total 4 Marks)

Mention the cause and TWO symptoms of each of the following respiratory disorders.

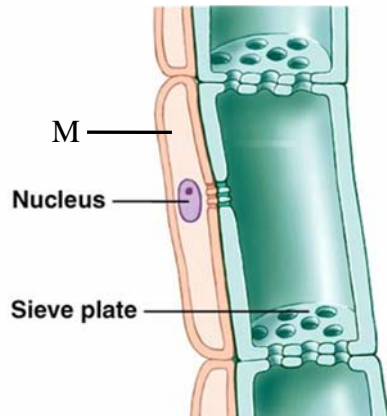
i. Sinusitis: _____

ii. Pnuemonia: _____

Q.9.

(Total 4 Marks)

The diagram shows some specialized cells of plants.



i. Identify cell M.

ii. Describe how cell M is necessary for the functioning of phloem.

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Q.10.

(Total 5 Marks)

EITHER

a. What are the bases of classification of enzymes? Describe any **THREE** examples of enzymes with reference to any **ONE** basis.

OR

b. Describe in detail the structure and function of endoplasmic reticulum.

Q.11.

(Total 5 Marks)

EITHER

- a. A few pollen grains brought by an insect to a flower lead towards the creation of a new plant. Explain the given statement with reference to the life cycle of a flowering plant.

OR

- b. 'We need insects for global survival.' Do you agree or disagree? Discuss the given statement with at least THREE supporting examples.

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