

GATITU SECONDARY SCHOOL

BIOLOGY FORM 2 MID-TERM 3RD TERM 2015

TIME 2^{1/2} HRS.

NAME.....ADM.....CLASS.....

SECTION A(ANSWER ALL THE QUESTIONS)

1. a)What is meant by the term gaseous exchange? (2mks)

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b) Name the gases exchanged.(1mk)

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2. Explain why respiratory surfaces has to be(4mks)

a) Thin.....

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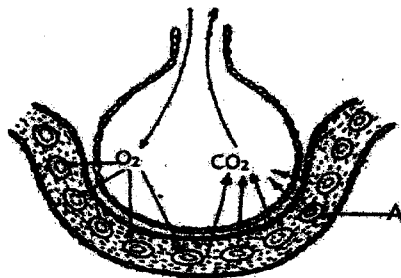
b) Moist.....

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3. List **three** environmental factors influencing the opening and closing of stomata.(3mks)

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4. The diagram below shows the exchange of gases in alveolus.



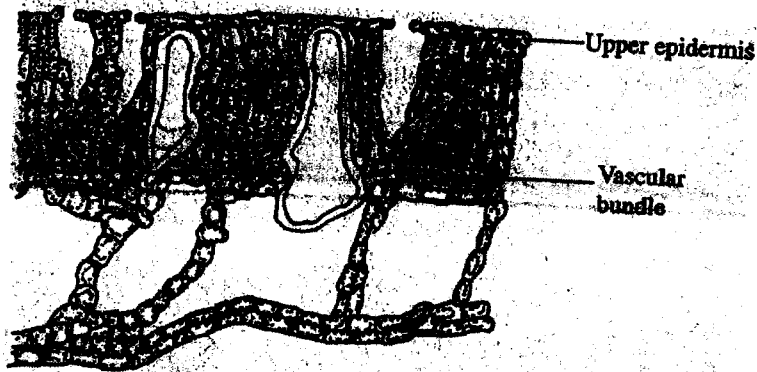
(i) State how the alveoli are adapted to their function.
(3mks)

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(ii) Name the cell labelled A.
(1mk)

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5. The diagram below shows a transverse section of a leaf. Study it carefully then answer the questions that follow.



a) Name the habitat of the plant from which the leaf was obtained.

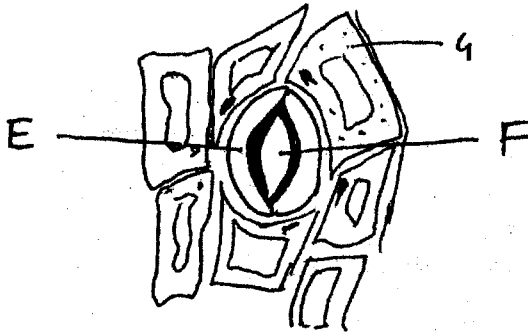
(1mk)

b) Give two reasons for your answer in (a) above.

(2mks)

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6.. The diagram below represents epidermis of a leaf



a) Name the parts marked E, F and G

E..... (3 mks)
F.....
G.....

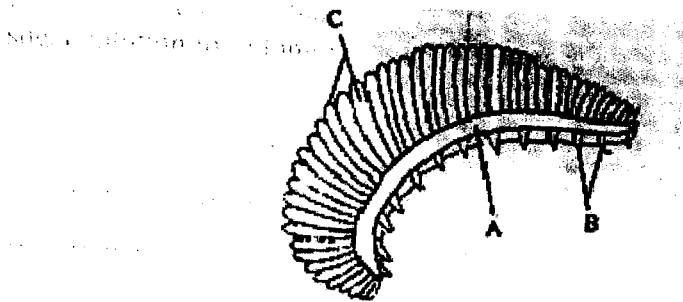
b) State two aspects of cell E that are an adaptation to its function.

..... (2 mks)
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c) Describe the changes that would take place in E if the cells were placed in concentrated sugar solution for a long period. (3mks)

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7. The diagram below shows the structures of a gill of a fish.



a).State three ways the structure labelled C are adapted for the function.

..... (3 mks)
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b). What is the function of structure labelled B?

..... (1mk)

c).In a body of fish, water flows along the gill filament in a direction opposite that of the blood. Explain the importance of this.

(2 mks)

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8. List components of the vascular bundle in plant roots and stems.(3mks)

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9.a) State the function of the following plant tissue.

Parenchymatous in the cortex of the stem. (2mks)

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b)Name the cell organelle that would be abundant in a companion cell.(1mk)

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c)State one disadvantage of transport in plants.(1mk)

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10. List any three functions of the stem.(3mks)

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11. State two differences between dicotyledonous and monocotyledonous roots.(2mks)

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12. What is meant by: (2mks)

i) Transpiration.....
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ii) Translocation.....
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13. State any three significance of transport in plants. (3mks)

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13) Translocation

14. Give two respiratory diseases affecting human being. (2mks)

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15. The table below shows the percentage composition of carbon(IV) oxide and oxygen inhaled and exhaled.

Gases	Inhaled air	Exhaled air
Oxygen	20%	17%
Carbon(IV)oxide	0.04%	4.0%

Explain the differences in the percentage of the two gases in inhaled and exhaled air. (2mks)

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16.a) Name two defects of the blood circulatory system in humans. (2mks)

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b).State **three** functions of blood other than transport.(3mks)

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17.What is meant by the following terms.(3mks)

i) Lung capacity?

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ii) Tidal volume?

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iii) Vital capacity?

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SECTION B (ANSWER ALL)

18 .Explain **five** factors affecting the rate of breathing in humans.(10mks)

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19. Describe the mechanism of **inhalation** in humans. (10mks)

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SECTION C (ANSWER ONE QUESTION ONLY)

20. Describe the mechanism of **opening** and **closing** of stomata using.

- a) Photosynthetic theory. (10mks)
- b) Starch- sugar inter-conversion theory. (10mks)

21. Describe the **structure**, **composition** and **functions** of components of mammalian blood. (20mks)

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SUCCESS.

BIO DERPT.