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GATITU DAY MIXED SEC SCHOOL

BIOLOGY PP2

TRIAL 2 2012

TIME: 2HRS

**INSTRUCTIONS**

Answer all the questions in section A and B in the spaces provided.

**SECTION A**

1. State why aquatic plants lack a well developed supportive tissue. (1mk)

b) Below are some structures that constitute the supportive tissue of some plants. (4mks)

|  |  |
| --- | --- |
| Tissue | Characterististics |
| Parenchyma |  |
| Collenchyma |  |
| Sclerenchyma |  |
| Xylem Tissue |  |

c) (i) Give the name of the muscles found on the dorsal region of a fish. (1mk)

(ii) Differentiate between the following terms as used in movement in fish;

* Yawning and pitching. (1mk)
* Paired and unpaired fins (1mk)

2. a) What is drug abuse (1mk)

b) Name two plant waste products that have been :

i) Abused by humans as a drug (2mks)

ii) One that has been used as a stimulant (1mk)

c) State three ways by which plants get rid of their waste products. (3mks)

3. Use the figure below to answer the question that follow.

The set-up was used to investigate a certain aspect in coleoptiles.

a) What aspect was being investigated? (1mk)

b) What is the role of agar block in this experiment. (1mk)

c) In set-up A the coleoptiles grew vertically upward after two days. Explain. (2mks)

d) In set-up B the agar block was placed halfway making the coleoptiles to bend as shown. Explain (2mks)

e) Give two uses of the hormone responsible for the observation above in agriculture. (2mks)

4. a) What is a complete culture solution (1mk)

b) Below is an apparatus that can be used to investigate a certain biological process.

i) Explain how the apparatus shown above may be used to investigate the functions of various ions in plant. (2mks)

ii) After being grown in a certain culture solution two plants portrayed the following symptoms. Plant X – Dead leaf apex and poor root growth. Plant Y – small purple leaves. Which mineral ions were deficient in X and Y. (2mks)

X

Y

c) i) Name two minerals required for proper formation of chlorophyll. (2mks)

ii) Name another factor required for chlorophyll formation (1mk)

**SECTION B**

**Answer question 5 (compulsory) and either question 6 and 7 in the spaces provide**d.

5. a) Name the body organ which controls the blood sugar level. (1mk)

b) The table below shows the changes in the level of blood sugar of a healthy man for 2 hours after a meal.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Time (minutes) | 0 | 20 | 40 | 60 | 80 | 100 | 120 |
| Blood sugar level mg/100cm3 blood | 90 | 95 | 115 | 140 | 110 | 100 | 90 |

i) On the grid provided, draw a graph showing blood sugar level against time. (6mks)

ii) How does the meal affect the blood sugar level? (2mks)

iii) Use the graph to find the blood sugar level 30minutes after meal. (1mk)

iv) Describe the process which occur as the body responds to this change in blood sugar level (4mks)

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c) Suggest how the body cells might be affected by high blood sugar levels. (3mks)

d) Name the condition in which a person passes out large amounts of dilute urine. (1mk)

e) Which hormone

i) stimulate the conversion of glycogen back to glucose? (1mk)

ii) Is responsible for conversion of glycogen to glucose during an emergency. (1mk)

iii) When absent causes presence of glucose in urine . (1mk)

6. a) What is meant by the term organic evolution (2mks)

b) Discus the evidences of organic evolution (18mks)

7. Explain the role of hormones on menstrual cycle . (2omks)