

# **BIOLOGY PAPER 3 2016 MOCK**

## **CONFIDENTIAL**

- 1. All the photographs should be colored**
- 2. To make solution M mix three egg yolks and 100g of sucrose with 500 mls of distilled water**
- 3. Each student should have.....three test tubes**

### **Access to DCPIP**

**Sodium bicarbonate**

**Benedicts solution**

**Dilute Hcl**

**Source of heat**

**Sodium hydroxide**

**Copper sulphate**

## **GATUNDU SUB COUNTY FORM 4 2016 EVALUATION EXAM**

### **BIOLOGY PRACTICAL.....231/3**

1. (i) Examine photograph k 1 and K2 then answer the questions that follow.

(a) Name the response that is exhibited by the seedlings. 1mrk.

(b) Explain how the response you have stated in (a) above occurs. 6mrks

(C)What is the significance (survival value) of the response you have stated in (a) above.1 mrk.

(ii) Photographs R1 and R2 show a certain response in plants.

a) Name the response shown by plant X. 1 mrk

b) Explain how the response you have stated in (a) above occurs. (3mks)

c) What is the biological significance of the response shown by X? (3 mks)

2 (a).Identify organs B and D in photograph T2 and state the class of organism from which they were obtained(4mks)

ORGAN

IDENTITY

MAMMALIAN CLASS

B

D

(b)State the common function of the organs identified in (a) above. (1mk)

(c )Name the parts of the body where B and D in photograph T2 are found (2mks)

B

D

(d)List the adaptations of D to its functions (3mks)

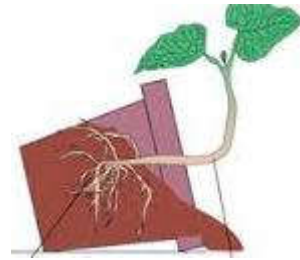
(e)Using observable features only, state how B is adapted to its function (2mks)

3. You are provided with solution M and various reagents. Use them to carry out food tests. (13MKS)

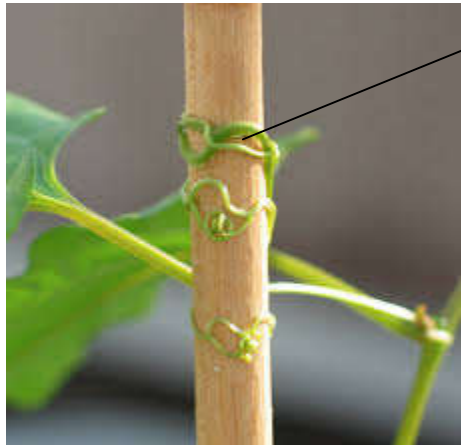
TEST	PROCEDURE	OBSERVATION	CONCLUSION



**K1**



**K2**



**R1**

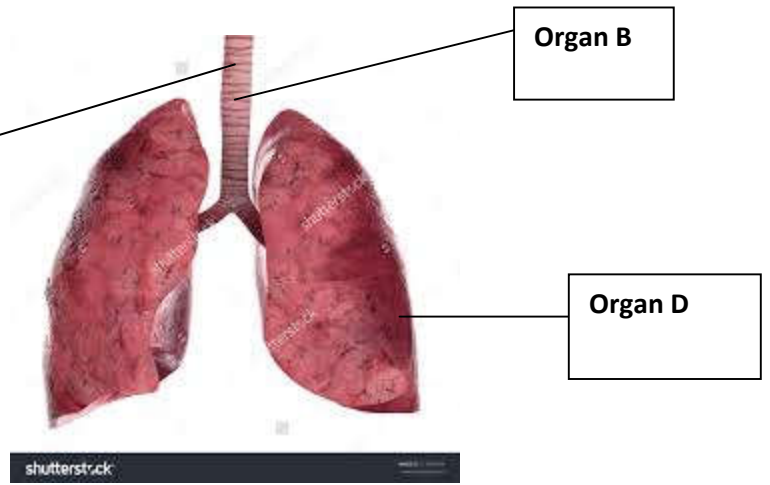


**R2**

**X**



**T1**



**T2**

**MARKING SCHEME 231/3 2016**

**1(a) Negative Geotropism;**

**(b) Due to gravity: auxins migrate to the lower side of the shoot; This causes a high auxin concentration on the lower side than on the upper side; The higher auxin concentration causes rapid cell multiplication and elongation on the lower side than on the upper side; causing upward curvature/growth;**

**(c) Enables the shoot to grow upwards so as to expose leaves to sunlight for photosynthesis;**

**(b) When shoots are in contact; with support material, auxins migrate to the side away from contact; causing a higher auxin concentration on the side away from contact than the side with contact; higher auxin concentration leads to rapid cell division and elongation; on the side away from contact than the side with contact leading to growth towards contact;**

**(c) It enables the plant to access support so that it can rise to higher levels where it exposes its leaves to sunlight for photosynthesis; flowers in a position for effective pollination; and fruits/seeds for effective dispersal;**

<b>2.(a) ORGAN</b>	<b>IDENTITY</b>	<b>MAMMALIAN CLASS</b>
<b>B</b>	<b>Trachea/windpipe;</b>	<b>mammalia;</b>
<b>D</b>	<b>lungs ;</b>	<b>mammalia;</b>

**(b) Gaseous exchange;**

**(c) B Neck region and the thoracic cavity;**

**D Thoracic cavity/chest cavity/thorax;**

**(d) –have a large surface area to ensure diffusion of larger volume of gases;**

**-highly vascularized to transport the diffusing gases;**

**-have a thin epithelium to reduce the diffusion distance of gases;**

**(e) –Has rings of cartilage that prevent it from collapsing;**

**-keeps the lumen fully open even when the neck bends;**

3.

TEST	PROCEDURE	OBSERVATIONS	CONCLUSION
Non reducing sugars;	To food(M) add dil Hcl and heat, cool,add sodiumbicarbonate then Benedicts soln and heat ;	Green-yellow-orange-brown; Accp-final colour alone	Non-reducing sugars present;
Proteins;	To food (M)add sodium hydroxide then copper sulphate;	Purple/mauve	Proteins present
Vitamin c;	To DCPIP add food (M)	No colour change	Vit c absent;

-acctpt when only one final color is given in non reducing sugars

-mind the spelling of benedicts, if its wrongly spelt deny the procedure mark but award observations and conclusion if they are correct.

-award procedure for non reducing sugars 2mks .....the first one after cool and the second at the end of 2<sup>nd</sup> heat.