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ALLIANCE HIGH SCHOOL

NAME:..... **INDEX NO:**.....

CLASS:.....**ADM NO**..... **DATE:**.....

231/3
BIOLOGY PRE- TRIAL 2015
PAPER 3
TIME 1HR 45 MIN

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided.
2. You are required to spend the first 15 minutes of $1\frac{3}{4}$ hours allowed for this paper reading the whole paper carefully before commencing your work.
3. Answers must be written in the spaces provided in the question paper.
4. Additional pages should not be inserted candidates may be panelized for recording irrelevant information and for incorrect spellings especially of technical terms.

FOR EXAMINERS USE ONLY.

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1	19	
2	11	
3	10	
SCORE	**40**	

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1. You have been provided with solutions T1, T2 and T3, Benedict's solution, iodine solution. Solution T2 is the same as T3 except that T3 has been boiled.

a) Use Benedict's solution and iodine solution provided to test for food substances contained in the solution T1. Record your results in the table below. (6mrks)

Food substance	Procedure	Observation	conclusion

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Label three test tubes A, B, and C. Treat each test tube as follows

Test tube	Treatment
A	Put 1ml of solution T1
B	Put 1ml of solution T1 and add equal amount of solution T2
C	Put 1ml of solution T1 and add equal amount of solution T3

Place the three test tubes in a warm water bath maintained at temperatures between 30^0C and 37^0C for 30 minutes.

b) Test the food substances in each test tube using Benedict's solution. Record your results in the table below. (6mrks)

Test tube	Observation	Conclusion
A		
B		
C		

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c) Account for your results at the end of the experiment in the test tube labeled B and C (2mrks).

B.....

.....

C.....

.....

d) i) Suggest the identity of solution T2 (1mrk)

.....

(ii) Give a reason for your answer (i) above (1mrk)

.....

.....

(iii) What role did test tube A play in the experiment? (1mrk)

.....

e) Suggest which part of the mammalian body could the process under investigation in this experiment take place? Give a reason for your answer. (2mrks)

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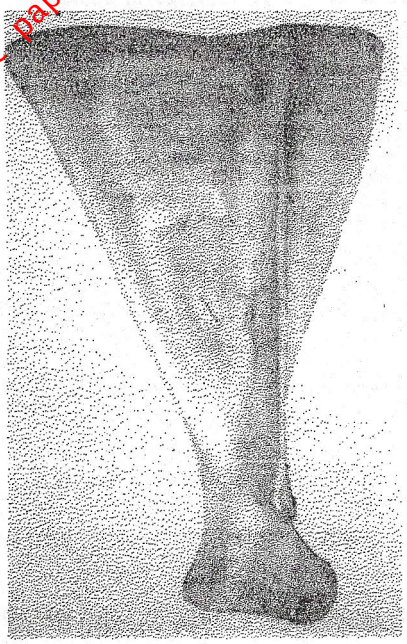
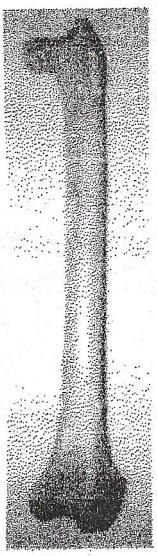
2. You have been provided with the photographs of bones obtained from a mammal. Examine them carefully.

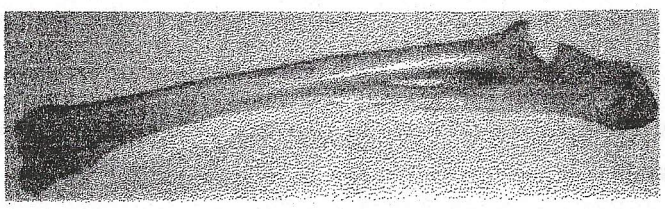
W

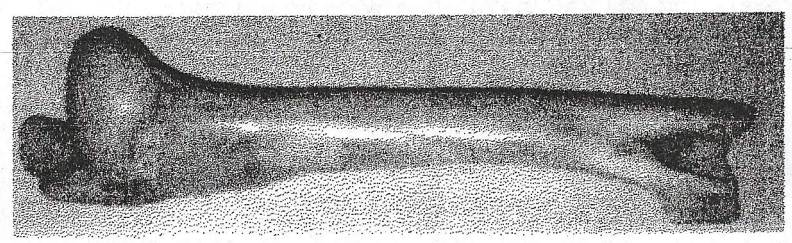


Y



Z





X

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a) Identify the bones in the photographs (4mrks)

W.....

X.....

Y.....

Z.....

b) Name the joint formed between

i) Proximal end of bone W and X

..... (1mrk)

ii) Bone Z and the distal end of bone X

..... (1mrk)

c) Name two muscles that are attached to the bone X which are useful for the movement of bone X (2mrks)

.....

.....

d) Name the articular surface of the mammalian skeleton that articulates with the proximal end of bone Y

.....

e) State two adaptations of bone W to its function (2mrks)

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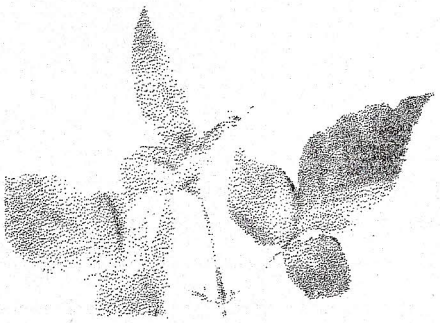
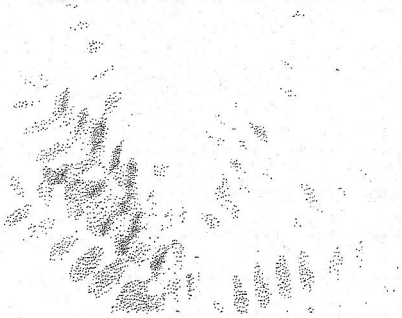
3. Below are photographs showing some observable features of the leaves.

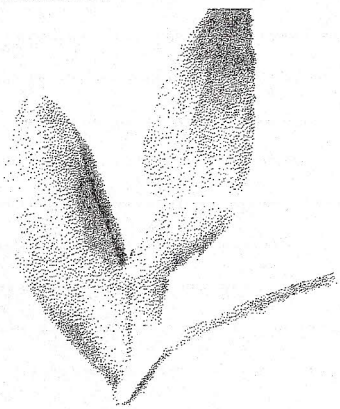
Compositae



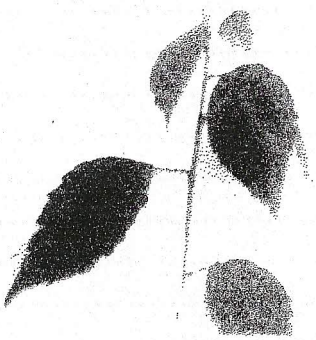
Papilionaceae



Commelinacea



Malyaceae



Nystaginaceae

Bignoniceae

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Using the features in the order given below, construct a dichotomous key that can be used to identify the specimens

- Simple or compound leaves.
- Leaf venation
- Leaf margin
- Arrangement of leaves on the stem
- Pinnate or trifoliate nature of leaves

(10 marks)