Name:_____ **INDEX NUMBER:**_____

CANDIDATES SIGNATURE:_____

DATE_____

231/2
BIOLOGY
PAPER 2
(THEORY)
2 HOURS

ALLIANCE HIGH SCHOOL
PRE –TRIAL EXAMINATION 2015
BIOLOGY PAPER 2

INSTRUCTIONS TO CANDIDATES

a) Write your name and index number in the spaces provided above.

b) Sign and write the date of examination in the spaces provided above.

c) This paper consists of 8 questions.

d) Answer questions 1-6 (compulsory) and either question 7 or 8 in the spaces provided.

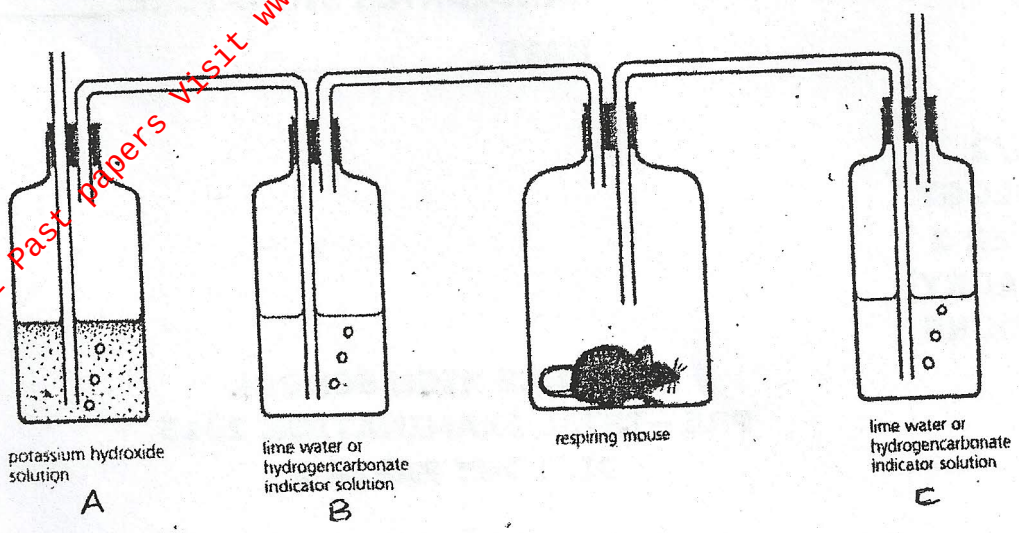
e) *Ascertain that all pages are printed as indicated and no questions are missing.*

For examiners use only

Section	Questions	Maximum score	Candidates score
A	1 2	8 8	
	3 4 5	8 8 8	
B	6 7 8	20 20 20	
	Total Score	**80**	

This paper consists of 9 printed pages. Candidates should check to ascertain that all papers are printed as indicated and that no questions are missing.

1. An experiment was set up to investigate an aspect of respiration as shown below.



a) What is the objective of the experiment? (1mk)

_____

_____

b) Draw arrows on the diagram to indicate the direction of flow of air in and out of the apparatus.(2mks)

c) State the purpose of including the following in the set up: (2mks)

i) Flask A

_____

_____

ii) Flask B (2mks)

_____

_____

Explain the expected observations in flask C. (3mks)

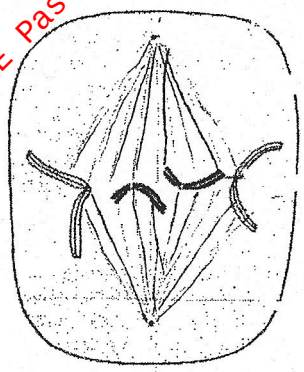
_____

_____

_____

2. Below are diagrams of a cell in an ovule of a flower at various stages of a nuclear division. study and answer the questions that follows:

a)For each diagram, identify the stage of cell division and state two activities taking place during that stage.

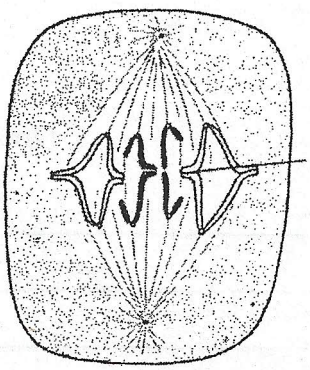


Stage _____

Activities _____

_____

_____ (3mks)



Stage _____

Activities _____

_____

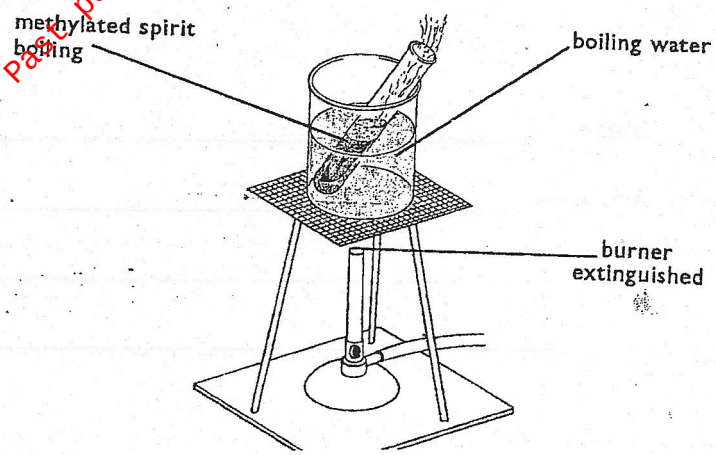
_____ (3mks)

b) Giving a reason , identify the type of cell division. (2mks)

_____

_____

3. A potted plant with variegated leaves was de-starched and then placed in a well illuminated place for 6 hours. One of the leaves was tested for starch. Below is a diagram of a certain stage in the procedure for starch test.



a) State two objectives of this experiment. (2mks)

i)_____

_____

ii)_____

_____

b) State the purpose of the stage in the diagram above. (1mk)

_____

_____

c)Briefly describe the treatment of the leaf in the step preceding the one in the diagram.(2mks)

_____

_____

_____

b) State the observation one would make after 2 days in the three coleoptiles. (3mks)

A _____

B _____

C _____

c) Account for the observations in coleoptiles A and B (4mks)

A _____

_____

_____

B _____

_____

_____

6. The data below represents levels of progesterone in female body within a period of 34 days from the first day of menstruation. Study the data and answer the questions that follows.

Day	1	4	8	10	12	14	16	18	20	22	24	26	28	30	32
Progesterone Level(arbitrary Units)	0.5	0.5	0.5	0.5	0.7	1.0	2.5	5.0	7.5	9.0	6.5	4.0	1.0	0.5	0.5

a) Plot a graph of progesterone hormone concentration against days . (6mks)

b)Account for the progesterone level in the blood between :

i) Day 1-5 (2mks)

ii) Day 14-22 (2mks)

iii) Day 22-28 (2mks)

c)Name the process that usually takes place on the 14^{th} day. (1mk)

d)Explain the effect of giving the woman progesterone pills between 24^{th}- 32^{nd} day. (2mks)

e i) Suggest two other hormones that were in high concentration in the blood between day 10-15. (2mks)

ii) state one role of each hormone named in e(i) above. (2mk)

f) State the role of a named gonadotrophic hormone in males. (1mks)

7. Describe gaseous exchange in:

i) A locust (10mks)

ii) In Tilapia. (10mks)

8 a) Name two theories that attempt to explain the evolution of species on earth. (2mks)

b) State at least four sources of evidence for the theories named above. (4mks)

c) How has artificial selection been of benefit to human beings. (14mks)