

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

SCHOOL:.....

Candidates signature: .....

Date: .....

231/3  
BIOLOGY  
PAPER3  
PRACTICAL  
JULY / AUGUST 2010  
2 HOURS

**KAKAMEGA NORTH DISTRICT JOINT EVALUATION TESTS**  
**Kenya Certificate of Secondary Education (K.C.S.E) 2010**

231 / 3  
BIOLOGY  
PAPER 3

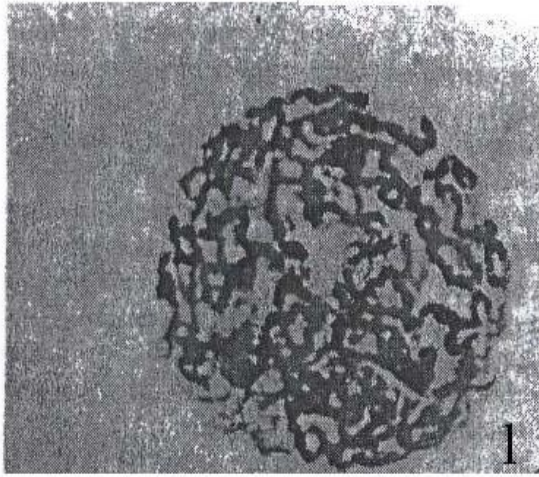
**INSTRUCTIONS TO CANDIDATES**

- ❖ Write your name and index number in the spaces provided.
- ❖ Answer **ALL** questions in this paper in the spaces provided.

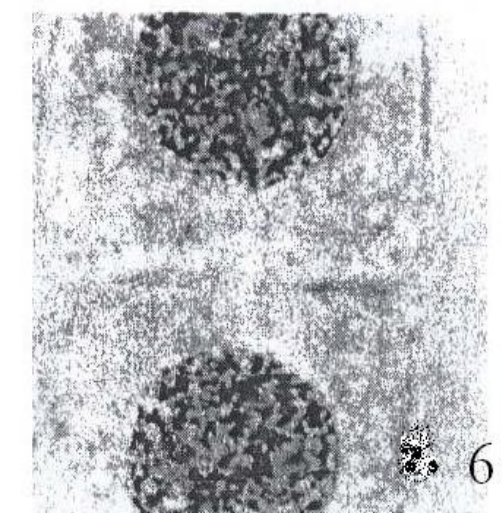
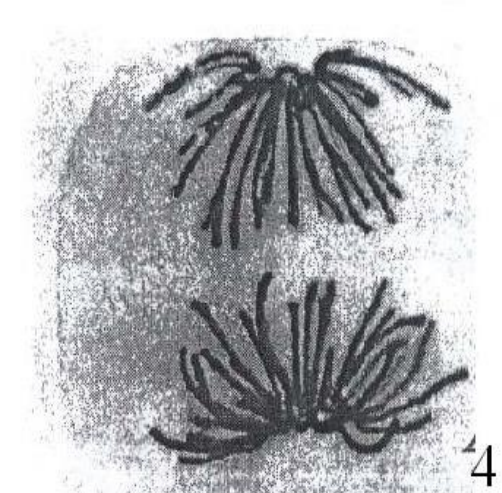
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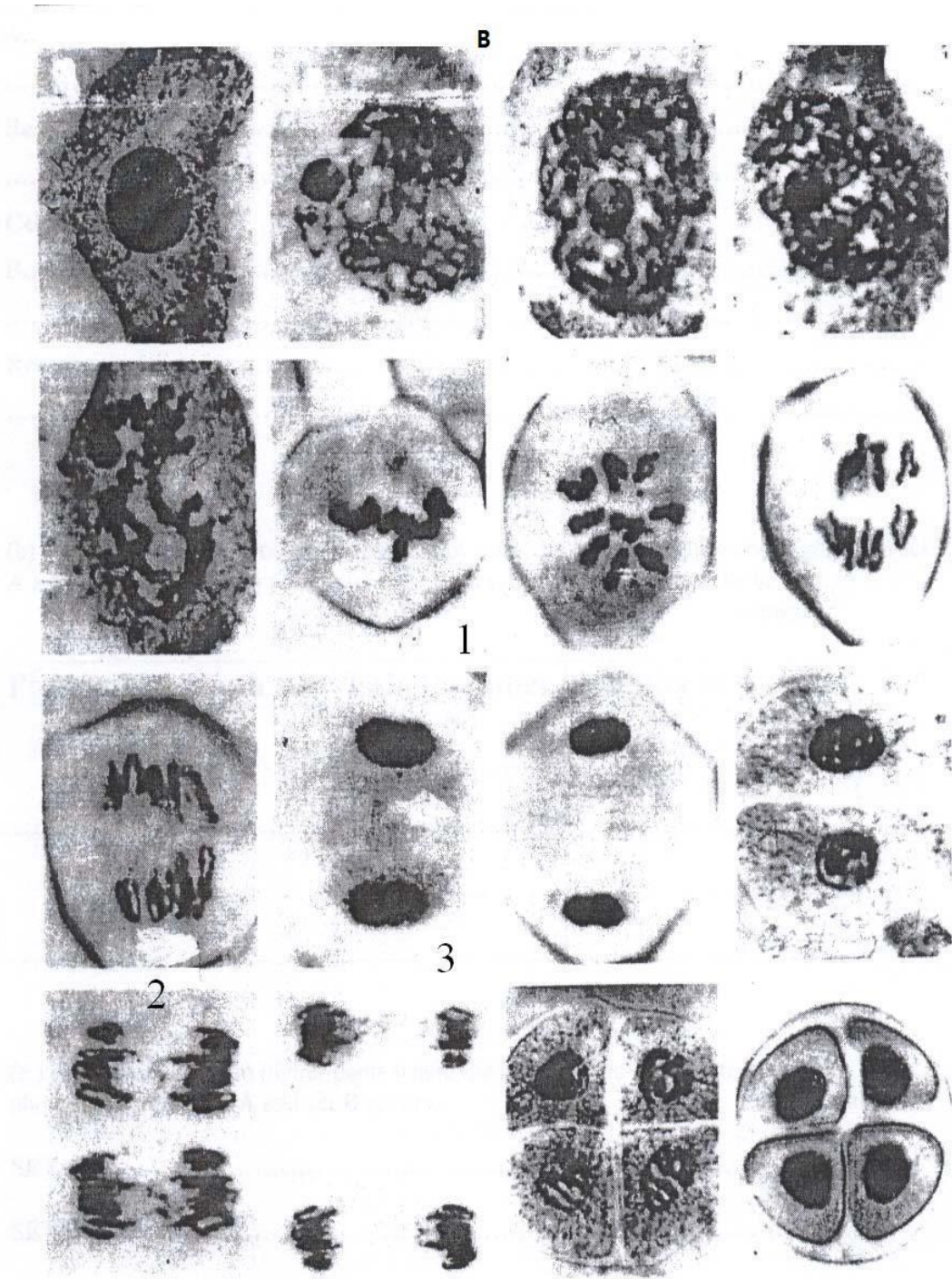
Question	Maximum Score	Candidates Score
1	14	
2	14	
3	12	
TOTAL	40	

1. Below are two sets of photomicrographs A and B showing various processes of cell divisions. Examine them.



A





(a) Using observable features only, identify the type of cell division represented by the photomicrographs in set A and set B. Give a reason in each case (4mks)

Cell division in set  
A

.....

.....

.....

.....

Reason:

.....  
 .....  
 .....  
 .....

Cell division in set  
 B

.....  
 .....  
 .....  
 .....

Reason:

.....  
 .....  
 .....  
 .....

(b) Name the division process represented by numbers 3 and 4 in photomicrographs of set A and number 1 and 3 in photomicrographs in set B. **Complete** the table below. (4mks)

Photomicrograph set.	Label number	Identity of process
A	3	
	4	
B	1	
	3	

(c) Name one region in higher plants where the cell division represented by photomicrographs set A and set B occurs (2mks)

Set A

.....  
 .....  
 .....  
 .....

Set B

.....  
.....  
.....  
.....

(d) **Describe** the process that is taking place at photomicrograph set A number 3 and photomicrograph set B number 2.

SET A number 4 (1mk)

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.....  
.....  
.....  
.....

SET B number 2 (1mk)

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.....  
.....  
.....  
.....

(e) **State** the importance of each of the cell divisions in set A and B in the bodies of living organisms. (2mks)

**SET A**

.....  
.....  
.....

**SET B**

.....  
.....  
.....

2. You are provided with specimen labelled **R** obtained from a plant. Examine it.

(a) (i) Name the part of a plant specimen **R** is (1mk)

.....  
.....

(ii) Give **TWO** reasons for your answer in (a)(i) above. (2mks)

.....  
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.....

(b) (i) **Name** the class of the plant from which specimen **R** was obtained. (1mk)

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(ii) Give **TWO** reasons for your answer in (b)(i) above. (2mks)

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.....  
.....

Cut 5cm of the whole petiole from specimen **R**. Obtain 4 strips of the cut petiole by splitting it using a sharp scalpel/Razor blade.

Place two of the strips obtained in solution labelled **S<sub>1</sub>** and the remaining two strips in solution labelled **S<sub>2</sub>**. Leave the set ups to stand for 15 minutes. Remove the strips from solution **S<sub>1</sub>** and dry them using the tissue paper provided. Repeat the same for strips in solution **S<sub>2</sub>**.

(c) (i) Feel the strips in solution **S<sub>1</sub>** Record down your observation. Repeat the same for strips in solution **S<sub>2</sub>**. (2mks)

Strips in solution **S<sub>1</sub>**

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.....

Strips in solution **S<sub>2</sub>**

.....  
.....

(ii) Apart from the observation in (c ) (i)above, record down other observations made on each of the strips in solutions **S<sub>1</sub>** and **S<sub>2</sub>** (2mks)

Strips in **S<sub>1</sub>**

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.....  
.....

Strips in **S<sub>2</sub>**

.....  
.....  
.....  
.....

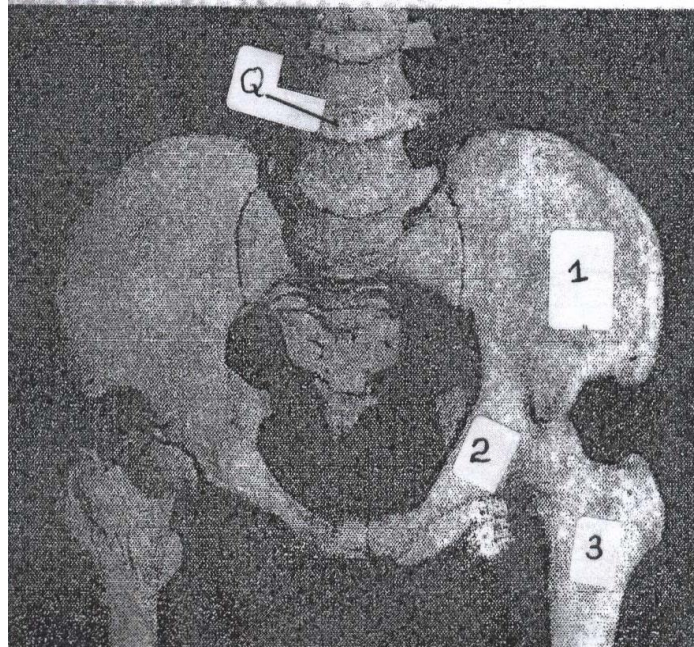
(iii) **Account** for the observations made in (c ) (i) and (ii) above (3mks)  
Strips in **S<sub>1</sub>**

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.....  
.....  
.....  
.....

Strips in **S<sub>2</sub>** (3mks)

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3. Below is a photograph obtained from the pelvic region of a human being, and showing some bones of the vertebral column. Examine it.



(a) **Name** the bones labelled 1, 2 and 3 on the photograph (3mks)

1: .....

2: .....

3: .....

(b) (i) **Name** the type of joint formed at the proximal end bone 3 as it articulates with the adjacent bone. (1mk)

.....  
.....

(ii) Give an observable feature on bone 3 for your answer in (b) (I) above. (1mk)

.....  
.....  
.....

(c) (i) **Name** the part labelled **Q**. (1mk)

**Q**: .....

(ii) Give **TWO** functions of the part named in c (i) above. (2mks)

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.....  
.....



(d) **Indicate** on the above diagram the position of pubis symphysis. (1mk)

(e) Using observable features only, **state** how bone I as adapted to its functions. (4mks)

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