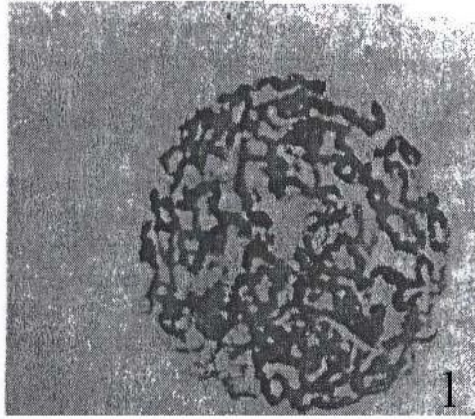


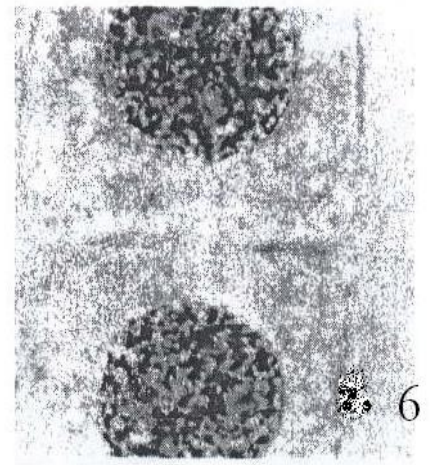
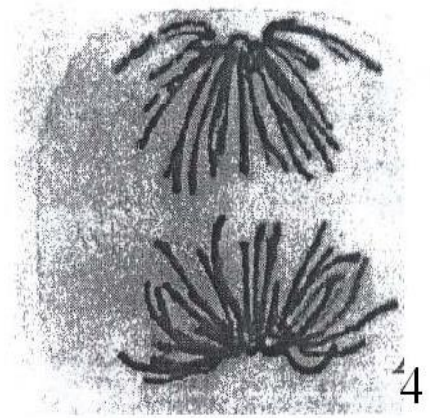
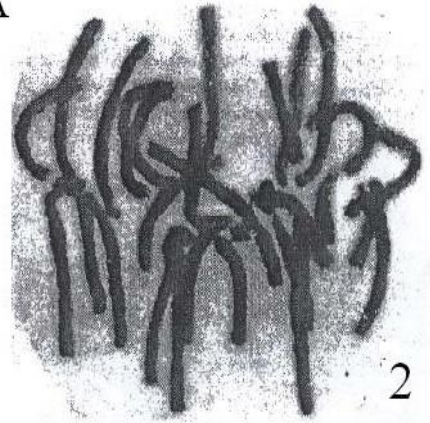
231/ 3
BIOLOGY
PAPER3
PRACTICAL
JULY / AUGUST 2009
2 HOURS

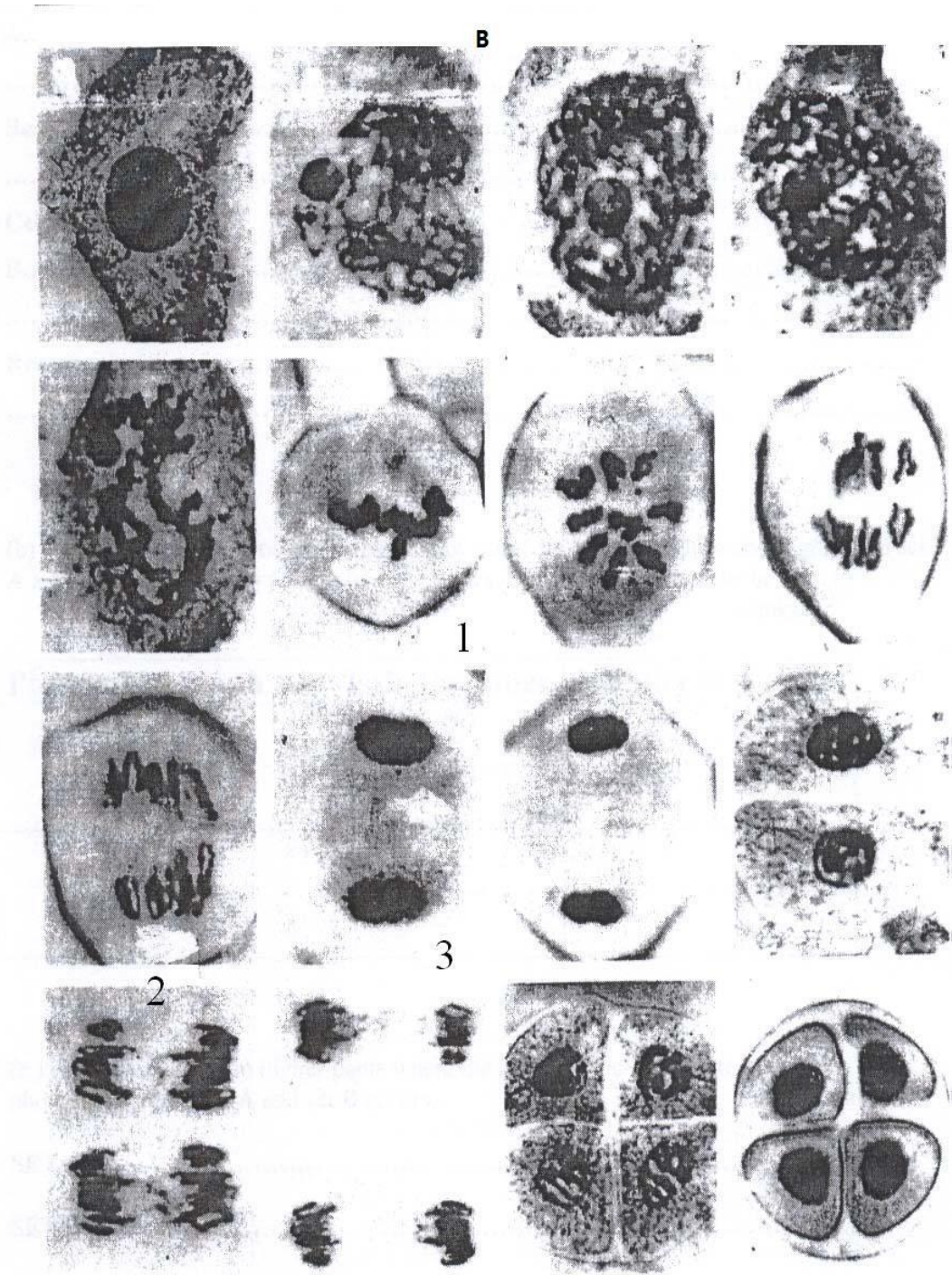
**JOINT INTERSCHOOLS EVALUATION TESTS
JISSET 2009**

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)

SET B number 2

(1mk)

(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)

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

(1mk)

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

(2mks)

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 **S₁** and the remaining two strips in solution labelled **S₂**. Leave the set ups to stand for 15 minutes. Remove the strips from solution **S₁** and dry them using the tissue paper provided. Repeat the same for strips in solution **S₂**.

(c) (i) Feel the strips in solution **S₁** Record down your observation. Repeat the same for strips in solution **S₂**. (2mks)

Strips in solution **S₁**

Strips in solution **S₂**

(ii) Apart from the observation in (c) (i)above, record down other observations made on each of the strips in solutions **S₁** and **S₂** (2mks)

Strips in **S₁**

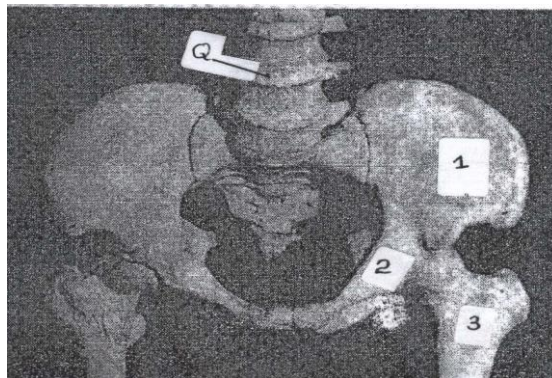
Strips in **S₂**

(iii) **Account** for the observations made in (c) (i) and (ii) above (3mks)

Strips in **S₁**

Strips in **S₂** (3mks)

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)

(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)

(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)