Name: .................................................. Adm. No: ......................
School: .................................................. Date: ..............................
Candidate's Signature.................................................................

231 / 3
BIOLOGY - PRACTICAL
FORM FOUR
PAPER 3
MARCH/APRIL 2013
TIME: 1\(\frac{3}{4}\) HOURS

BARINGO NORTH JOINT EXAMINATIONS - 2013
Kenya Certificate of Secondary Education (K.C.S.E.)
BIOLOGY PAPER 3 FORM FOUR.

INSTRUCTIONS TO CANDIDATES

1) Write your name, ADM number and sign in the spaces provided above.
2) You are required to spend the first 15 minutes of the 1\(\frac{3}{4}\) hours of time allocated reading whole paper carefully before commencing your work.
3) All answers must be written in the spaces provided in the question paper. Additional pages MUST not be inserted.

FOR EXAMINERS USE ONLY

<table>
<thead>
<tr>
<th>Questions</th>
<th>Maximum Score</th>
<th>Candidates Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

This paper consists of 4 printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no question is missing.
1. Examine the photographs below and answer the questions that follow

a) Specimen R was obtained from fruit development of a tomato fruit
   i) Name the parts labelled (5 marks)
      A_________________________________________________________
      B_________________________________________________________
      C_________________________________________________________
      D_________________________________________________________
      E_________________________________________________________
   ii) State the type of fruit represented by E. (1 mark)
       __________________________________________________________
   iii) Give reasons for your answer in (ii) above. (1 mark)
       __________________________________________________________

b) State the type of placentation shown by the specimen S and T. (2 marks)
   S___________________________________________________________
   T___________________________________________________________

c) i) State the agent of dispersal of specimen T and E (2 marks)
    T___________________________________________________________
    E___________________________________________________________
ii) Give reason for your answer in (c) i above.  
_________________________________________________________________________  
_________________________________________________________________________


d) List three observation differences between specimen E and T.  
_________________________________________________________________________  
_________________________________________________________________________  
_________________________________________________________________________

2. You are provided with:
i) Olive oil  
ii) Solution F  
iii) Solution K (concentrated sodium hydrogen solution) 

a) Using the reagents provided carry out, food tests to determine the food substance(s) 
present in solution F. 

<table>
<thead>
<tr>
<th>Test Procedure</th>
<th>Observation</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(6 marks)

b) Into a test tube, put 2 cm³ of distilled water and add 8 drops of live oil. Then add 8 drops 
of solution K. Shake it and allow standing for two minutes.

i) Record your observations  
_________________________________________________________________________  
_________________________________________________________________________

ii) Name the process that has taken place in the test tube.  
(1 mark)

iii) State the significance of the process named in b(ii) above in digestion.  
(1 mark)
Name the:

I) Digestive juice in humans that has the same effect on oil as liquid K.  

II) Region of the alimentary canal into which the juice named above is secreted. 

III) State two salts found in the digestive juice named in iv (I) above

3. The micrograph below shows stages in a type of cell-division that occurs in organisms.

![Micrograph of cell division](image)

a) State the type of cell-division

b) Identify the stages indicated by letter:-
   V
   X
   Y
   Z

c) Name the type of cells in which the above process occurs.

d) State two significance of this type of cell division

e) From the micrograph, suggest with reason(s) whether the cell-division shown occurred in plants or animals.