NAME_____ADM. NO_____CLASS_____

231/3

BIOLOGY PRACTICAL

TIME: 1 ¾ HOURS

FOR EXAMINERS USE ONLY:

QUESTION	MAXIMUM SCORE	CANDIDATES SCORE
1	16	
2	12	
3	12	
TOTAL	40	

1. Examine Specimen E provided.

a) Identify the type of the fruit. (1 mark)

b) Give a reason for your answer in 1(a) above. (1 mark)

c) Cut a transverse section through specimen E and make a well labeled diagram. (4 marks)

d) State the type of placentation of E. (1 mark)

e) i) Name the agent of dispersal for E. (1 mark)

ii) State how E is adapted to its mode of dispersal identified in e (i) above. (2 mark)

f) Squeeze out the juice from specimen E into test tubes and fill in the table below. (4 marks)

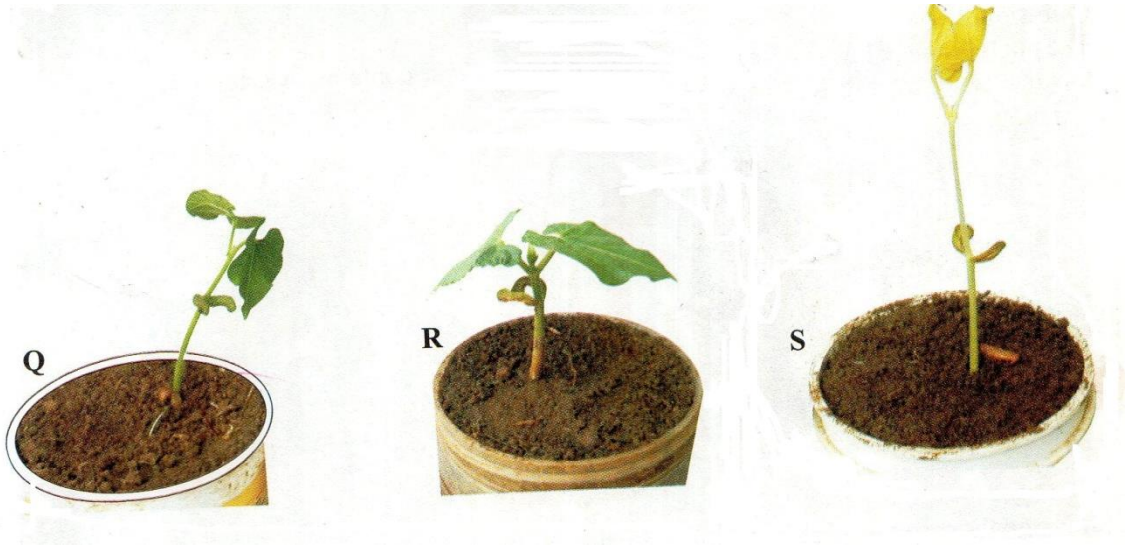
Food substance	**Procedure**	**Observation**	**Conclusion**

g) i) Suggest the expected result if the juice of E was boiled for 10 minutes, cooled and then retested again.

(1 mark)

ii) Explain your answer in g(i) above. (1 mark)

2. The photographs below show three bean seedlings that are of the same age but grown under different environmental conditions. Examine them.



a) Based on external appearance of the seedling, suggest the conditions under which seedling R and S were grown.

i) R (1 mark)

ii) S (1 mark)

b) State 3 observable differences between seedling R and S. (3 marks)

c) i) Name the term used to describe the phenomenon exhibited by specimen S. (1 mark)

ii)State the significance of the above named phenomenon in c(i) above. (1 marks)

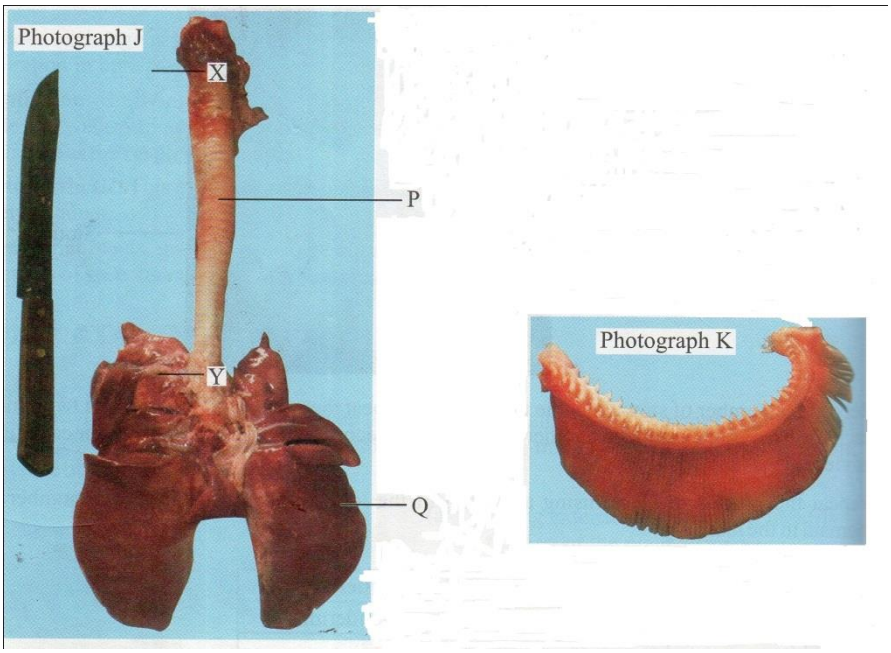
d) Account for the difference in the length of the stems of specimen R and S. (2 marks)

e) Name the response exhibited by seedling Q. (1 mark)

f) State the type of germination that occurs in the three seedlings. (1 mark)

ii) Give a reason for your answer in f(i) above. (1 mark)

3. Examine photographs J and K below and answer the questions that follow.



a) Identify the organ labeled Q in photograph J and the organ in photograph K.

i) Q (1 mark)

ii) K (1 mark)

b) State the class of organisms from which organ in photograph K was obtained. (1 mark)

c) State the common function performed by the organs shown in the photographs. (1 mark)

d) Highlight two adaptations that are common to organ Q and the organ in photograph K. (2 marks)

e) i) Name the part labeled P, in the photograph J. (1 mark)

ii) Using observable features only, state how the structure you named in e (i) above is adapted to its function. (1 mark)

f) Name the part of the body from where the structure labeled Q on photograph J is found. (1 mark)

g) Using observable features only, state three adaptations of specimen K to its functions. (3 marks)