

BIO MARKING SCHEME PP3 2020 FORM 4 TERM 1 ENTRY EXAMS

1. You are provided with specimen labelled F. Examine the specimen.

a) With reasons state the type of fruit specimen F is. (1mk)

Legume

Reason (1mk)

Pericarp has longitudinal margins (lines of weakness).

-Pericarp enclose the seeds inform of a pod.

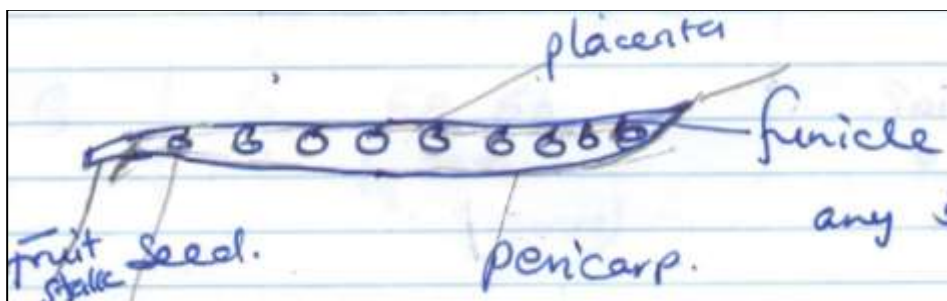
-Marginal placentation, develops from superior ovary

b) Carefully open specimen F to expose it's contents

i) State the type of placentation in the specimen. (1mk)

Marginal placentation

ii) Draw and label the opened specimen. (5mks)



iii) Work out your magnification. (2mks)

Magnification = $\frac{\text{Length of diagram}}{\text{Actual length of the specimen}}$

Actual length of the specimen

c) Remove the seeds and crush them using a mortar and pestle to make a paste. Add a little water to make about 10ml solution of the paste.

Using the reagents provided test for the food substances present in the juice. Record the food substances being tested, procedures, observation and conclusion in the table below.

SUBSTANCE BEING TESTED	PROCEDURE	OBSERVATION	CONCLUSION
	Test solution add 2 drops of iodine solution	Colour of iodine turns to blue black	Starch present
Proteins	Test solution add sodium Hydroxide solution followed by copper (II)	Blue colour is observed	Protein present

	sulphate solution drop wise		
reducing sugars	to solution add equal amounts of benedicts solution and gently heat to boil	colour of Benedict's turns to green-yellow orange	reducing sugar present

2. Identify the specimens in the photograph using the key and outline the steps followed to identify each specimen. (8mks)



A



B



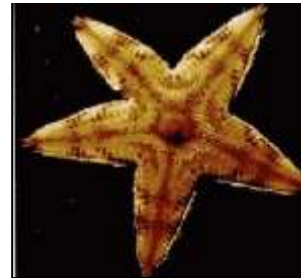
C



D



E



F



G



H

1. (a) Animals with a backbone Go to 2
- (b) Animals without a backbone Go to 5

2. (a) Animals without wings..... Eagle
- (b) Animals without wings go to 3

3. (a) Animals which live in water all the time..... go to 4
 (b) Animals which live in water some time..... Frog

4. (a) Animals with fins Fish
 (b) Animals without fins Turtle

5. (a) Animals with legs Go to 6
 (b) Animals without legs go to 7

6. (a) Animals with six legs Butterfly
 (b) Animals with eight legs Spider

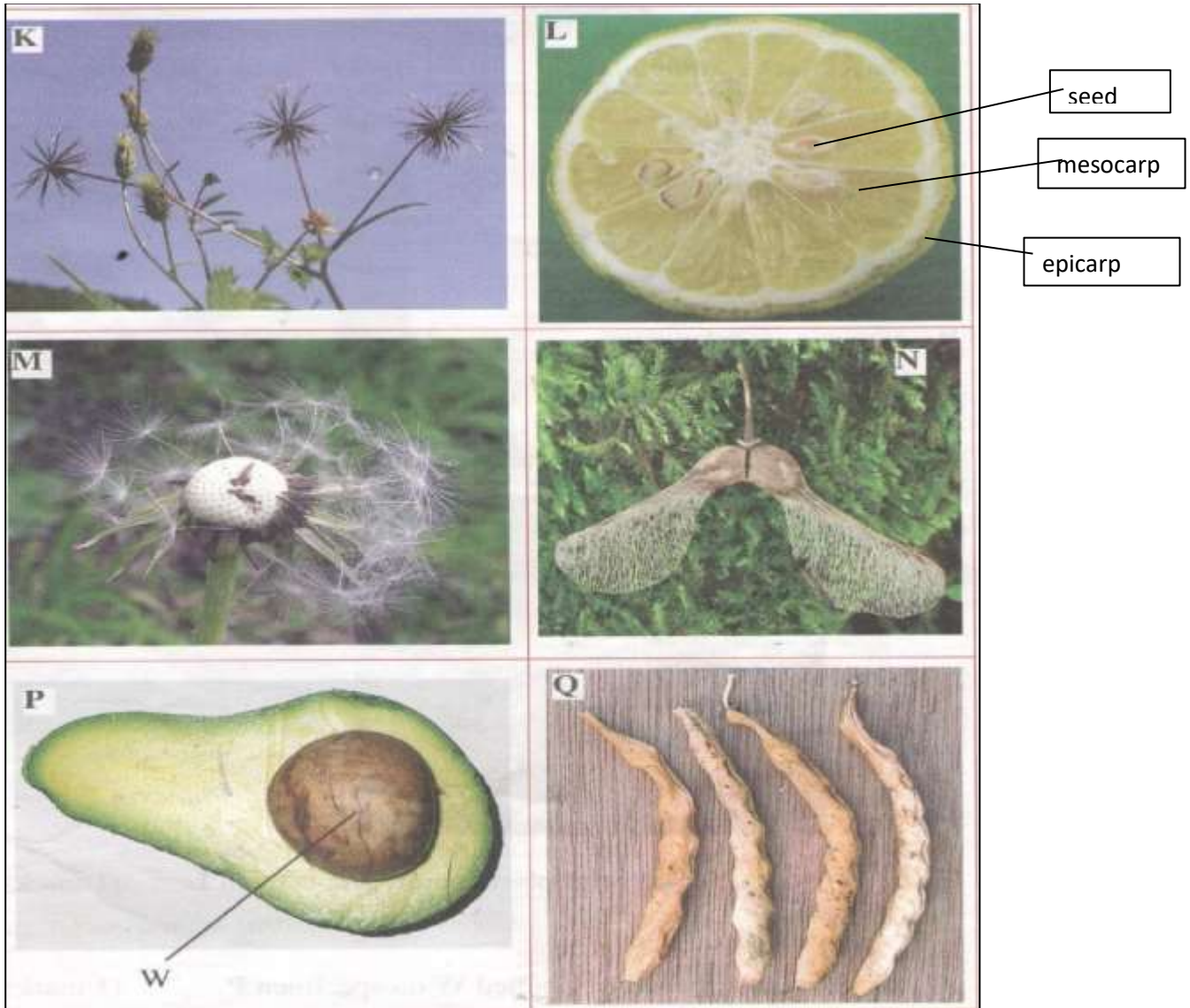
7. (a) Animals with a shell..... Snail
 (b) Animals without a shell..... go to 8

8. (a) Animals with a jelly-like body go to 9
 (b) Animals without a jelly-like body Starfish

9. (a) Animals with a segmented body Earthworm
 (b) Animals without a segmented body Octopus

SPECIMEN	STEP FOLLOWED	IDENTIFY
A	1a, 2a	Eagle
B	1a,2b,3a,4a	Fish
C	1b,5b,7b,8a, 9a	Earthworm
D	1a, 2b, 3a,4b	Tortoise
E	1b,5b,7b,8a,9b	Octopus
F	1b,5b,7b,8b	Starfish
G	1b,5a,6b	Spider
	½ each	

3. Below are photographs of specimens obtained from plants. Examine the photographs.



a) In the table below name the mode of dispersal and the features that adapt the specimen(s) to that mode of dispersal.

Specimen	Mode of dispersal	Adaptive feature
K	Animal	Hooks/hook
L	Animal	Fleshy/Juicy
M	wind	Parachute /Hairs papus Hair – lice projection
N	wind	Winged pericarp wing- like projections
P	Animal	Fleshy
Q	Self/self explosive mechanism	Sutures / line of weakens

b) i) Label any two parts on specimen (L (on the diagram) (2mks)
 - **Epicarp**

mesocarp

Endocarp

Seed

placenta

ii) State the type of placentation in specimen L.

(1mk)

Axile

c. Name the structure labelled W on specimen P.

W – Seed/Endocarp