

231/3

BIOLOGY PAPER 3

PRACTICAL

MARKING SCHEME

1.

Solution	Food substance	Procedure	Observation	Conclusion
X	Starch	Put 2cm <sup>3</sup> of substance x into a test tube labeled A. Add three drops of iodine solution and shake;	Colour changes to blue black	Starch present;
	Reducing sugar	Put 2cm <sup>3</sup> of food substance X into a test tube labeled A. Add two drops of Benedict's solution and heat the mixture to boil;	No colour change/ the colour of benedict's solution persists/remain blue;	Reducing sugar absent
	Proteins	Put 2cm <sup>3</sup> of food substance X into a test tube labeled A. Add equal amount of sodium hydroxide solution and shake. Add copper (ii) sulphate solution and shake;	No colour change/blue colour of copper (II) sulphate persists;	Proteins absent;
Y	Starch	Put 2cm <sup>3</sup> of food substance Y in a test tube labeled	No colour change/colour of iodine solution	Starch absent

		B. Add 3 drops of iodine solution;	persists;	
	Reducing sugar	Put 2cm <sup>3</sup> of food substance Y in a test tube labeled B. Add two drops of Benedicts solution and heat the mixture to boil;	No colour change/colour of benedict's solution persists;	Reducing sugar absent;

	Protein	Put 2cm <sup>3</sup> of food substance Y into a test tube labeled B. Add equal amount of sodium hydroxide solution. Add copper (II) sulphate solution while shaking	The colour changes to purple	Protein present
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#### Conditions for marking food test

(a) (i) Reject procedure, hence observation and conclusion if:

Food substance tested is wrong

Name of reagent(s) is included in the column for food substance

The procedure is wrong

Spelling of reagent(s) is wrong

Incorrect chemical formula of a reagent is used in procedure

(ii) Reject conclusion if observation is wrong

(iii) For solid X give one mark for each correct food substance, procedure, observation and conclusion

(iv) For solid Y. award equivalent (///) for correct food substance and procedure; then give one mark for each correct observation and conclusion

Total marks  $18/2 = 9$  mks

(b) (i) Solid Y;

(ii) Solid Y is rich in proteins

(c) (i) Stomach;

(ii) Pepsin;

(d) Hydrolysed and oxidized to release energy;

Storage form of carbohydrates in plants;

Mark the first point only.

2. (a)

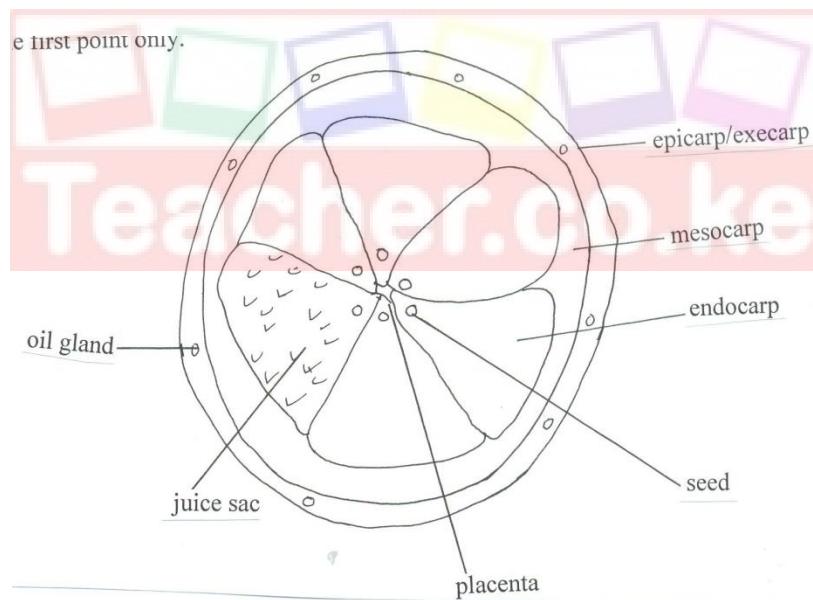


Diagram marking:

(i) Drawing mark (1)

- No shading

- Continuous out line

- Proportionality

- Correct shape/Actual specimen

(ii) Magnification

(1mk)

Evidence of measurement and calculation

Drawing length = magnification

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Length of real specimen

X – before the figure must be present

- If the mg has units- Deny the mark

(iii) Label marks

- Conditions;

- Mark only three correct labels. Marking to be done clockwise from a vertical axis

- Names must be spelt correctly

- A line and not arrow must be used

- The line should touch the part labeled

- Line should never cross each other, if they do both labels are wrong

- If two parts are labeled similarly both are wrong

- If two lines touch the same part both labels are wrong

(b)

Specimen	Agent	Reason(s)
A	Animal	Has hooks; which attach on skin/clothes of animal/man
B	Animal	Fleshy/succulent hence edible, brightly coloured to attract animals (if ripe lemon/orange are provided).  It is scented/has good smell which attract animals
C	Self explosive	Presence of sutures/lines of weakness

	mechanism	
D	Wind	Small and light; has pappus of hair which increase surface area to be easily carried by the wind

(b) Marginal placentation;

3. (a) (i) Pisces; rej wrong class and hence reject the reasons

Rej wrong spelling and continue marking the reasons

(ii) Presence of fins; operculum, scales, lateral line

Mark the first two reasons

(b) (i) Streamlined body;

(ii) To reduce friction in water;

(c) (i) 203mm + 1mm;

(ii) 85mm + 1mm;

(iii) Length from anus to tip of tail x 100

$\frac{\text{Length from mouth tip to tail tip}}{\text{Length from anus to tip of tail}} \times 100$

$\frac{85}{203} \times 100;$

$41.87\%;$

(d) J – Dorsal fin;

K – Caudal fin;

L – Pelvic fin;