

BIOLOGY PAPER 3

MARKING SCHEME

1.a)

Procedure	Observation	deduction
- Put a little (3-4) drops of x on a white tile and add one drop of iodine solution	Blue – black Colouration appears	Starch present
- Put 1 cm ³ /2cm ³ of solution X into a test tube. Add equal volume of Benedict's solution and heat / boil.	Blue colour of Benedicts solution remains;	Reducing sugar absent

(6 marks)

Note: procedure must be correct to score in observation and deduction

Penalize for deduction if observations are wrong

Rej if no heating when using Benedicts solution or there is heating when using iodine solution

b)

Observation

Test – tube	Starch	Reducing sugar (s)
1	Blue-black colouration;	Blue colour of Benedicts solution remains; Blue colour of Benedicts solution remains;
2	Blue – black colouration;	Yellow / brown /orange colouration
3	Blue – black;	

c) i) Test tube 2 has starch ; boiling denatured enzyme in solution Y thus starch could not be converted to reducing sugars;

ii) Enzyme in solution hydrolysed / converted digested some of starch into reducing sugar; giving a positive test / yellow /brown /orange colour with Benedicts solution;

d) Solution Z could have denatured the enzyme in solution Y;

e) Mouth; Duodenum; (mark the 1st only)

2.a) A Humerus correct spelling

B – Femur

C- Ulna and radius / ulna – radius

b) W- sigmoid notch

X – Olecranon process

Y – Radius

c) Anterior - ball and socket

Posterior – hinge joint

d) B – Appendicular

D – Axial

e) Long neural spine for attachment of muscles

Wide neural canal for passage of spinal cord
 Has a demifacets for articulation with the ribs
 Has a facets for articulation with the vertebrae
 Wide / broad centrum for support

(Mark first 3)

3.a) Reproduction

b)

Q	R
1. Polycarpous / many carpelsapocarpous /free carpels and many of them	1. Monocarpous
2. Superior / Hypogynous ovary	Inferior / Epigynous ovary
3. 5 stamens / 5 anthers / 5 filaments	10 stamens / 10 anthers / 10 filaments

c) A – Receptable

B – Petal / corolla

C – Anther ref anthers

d)

- Petals wither and fall – off
- Sepals wither and fall or may persists in some flowers
- Ovary develops into a fruit
- Ovules develop into seeds
- The ovary wall develops into apericarp

e) **Class** - Dicotyledonae

Reason – Floral structures (anthers) are 5 or in multiples of five

Ref anything about sepals since they are fused and may not give correct answer

