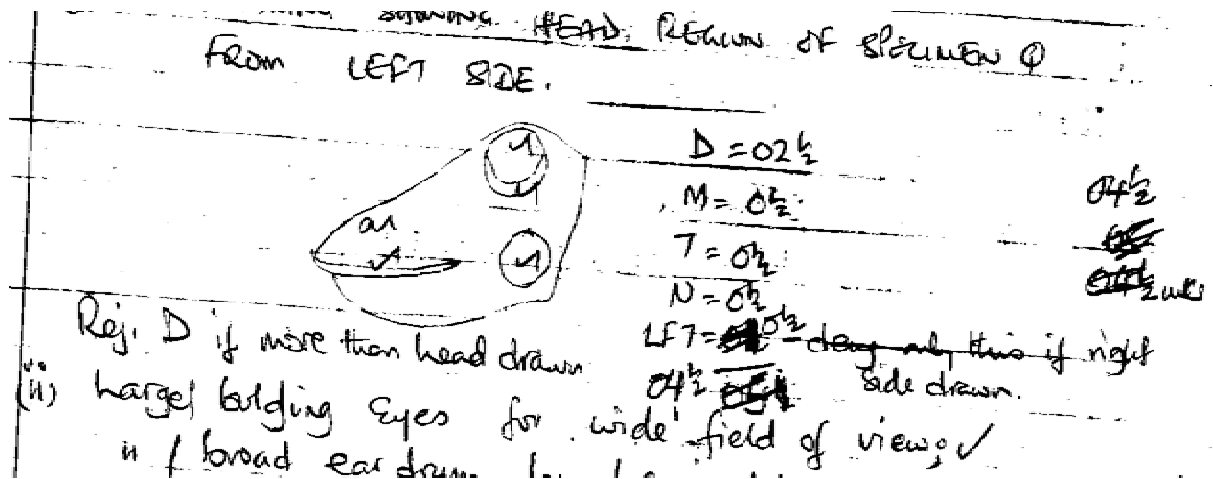


WAKISSHA JOINT MOCK EXAMINATIONS 2015
UGANDA ADVANCED CERTIFICATE OF EDUCATION
MARKING GUIDE
P530/3
BIOLOGY PRACTICAL
PAPER 3
JULY/AUGUST 2015



1. (a) (i) DRAWING SHOWING HEAD REGION OF SPECIMEN Q FROM LEFT SIDE.



- (ii) Large bulging eyes for wide field of view;
 Large broad ear drum for heaving/detection of sound waves;
 Nictitating membrane is elastic for protection of eye ball;
 Open/hollow nostril for breathing;
 Wide gape/mouth for consuming prey of large size;

03marks

Accept any 1st 3

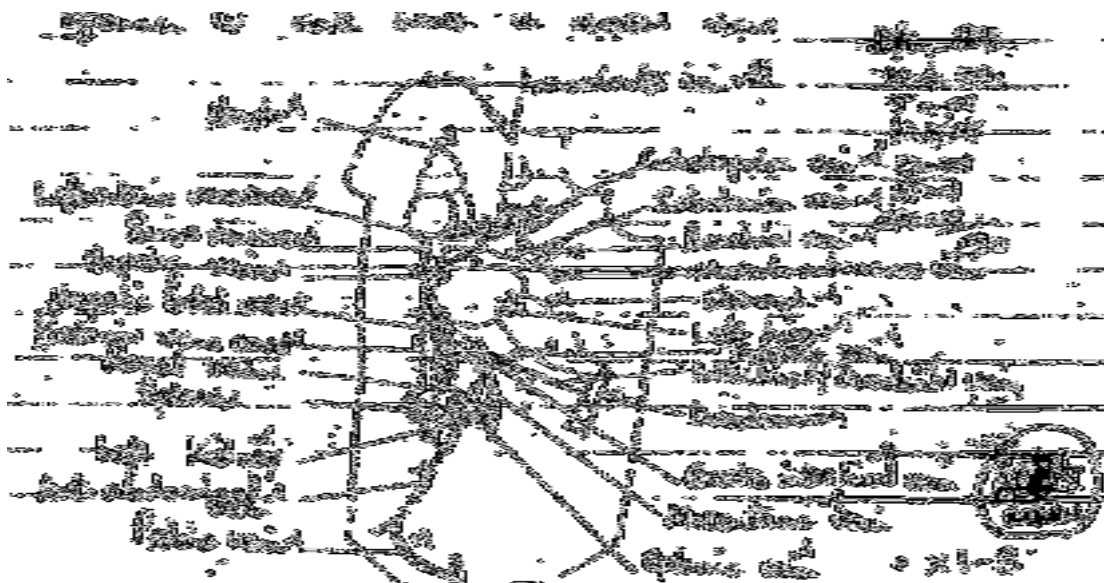
- (b) (i) One; large blood vessel/musculature vein; which branches/divide; into few smaller blood vessels; which further subdivide/branch; into a network of blood capillaries; distributed all over inner surface of skin; and blood vessels embedded/ attached onto the skin;

03¹/₂Max

- (iii) Ensure increased surface area; and reduced diffusion distance; thus faster rate of gaseous exchange;

01¹/₂ mark.

- (c) Drawing showing veins returning blood from left chest region pelvic and organs located in left abdominal cavity of specimen Q with heart in dorsal view.



2. (a)

Tests	observations	Deductions.
i. Iodine test to 1cm ³ of sol was added 1/2/3 drops of iodine solution.	R- Turbid sol turned is brown sol.	Starch absent.
	S-Turbid sol turned bluish black/black sol	Much starch
ii. Biuret test to 1cm ³ of sol was added 1cm ³ NaOH sol followed by 1/2/3 drops of CuSO ₄ sol.	R- Turbid sol turned to violet/purple sol	Protein present
	S-Turbid sol turned into pale blue sol	Protein absent.
iii.	R- Turbid sol remained turbid.	Sulphate ions absent.
	S- Turbid sol forms white precipitate.	Sulphate ions present
iv.	R- Turbid sol forms white precipitate.	Chloride ions present.
	S- Turbid sol remained Turbid.	Chloride ions absent.

04

08

04

16marks.

(b)

Tests	Observations.
Iodine test	R ₁ - Turbid sol remained brown.
	S ₁ - Turbid sol turned bluish black/black.
Biuret test	R ₁ - Turbid sol turned violet/purple.
	S ₁ - Turbid sol remained blue.
(iii) from table 1	R ₁ - Turbid sol turned to white precipitate.
	S ₁ - Turbid sol formed to white precipitate.
(iv) from table 1	R ₁ - Turbid sol formed to white precipitate.
	S ₁ - Turbid sol formed to white precipitate.

- (i) Breaker (R_1) has proteins; sulphate; chloride ions; but as starch; The ions are small sized molecules; thus diffuse across the wall of Z; While starch molecules being large in size can not diffuse through wall of Z;
- (ii) Solution from Z (S_1) has starch, Sulphate & chloride ions but no proteins since ions are small sized and diffuse through wall of Z while protein molecules are large and can't diffuse.
- (iii) Z is differentially/ selectively permeable; allowing diffusion of small sized molecules; but not large sized ones; **$01\frac{1}{2}$ marks**

3. (a) (i) Specimen U

Three florets; are attached along midrib/main vein; of each bract; by a pedicel; Florets on upper surface of the bracts; and the pedicels of the 3 florets fuze forming a peduncle;

$02\frac{1}{2}$ marks

- (ii) Florets with broad; net veined; thin cordate chapped; bract Pediculate/ stalked florets; calyx and Corolla fuze forming periaoth; Stamen with long; thin filaments having round anthers at the apex conical/elongated shaped; ovary is superior with short style and spear shaped; large stigma;

06 marks.

(b) (i) Advantages:

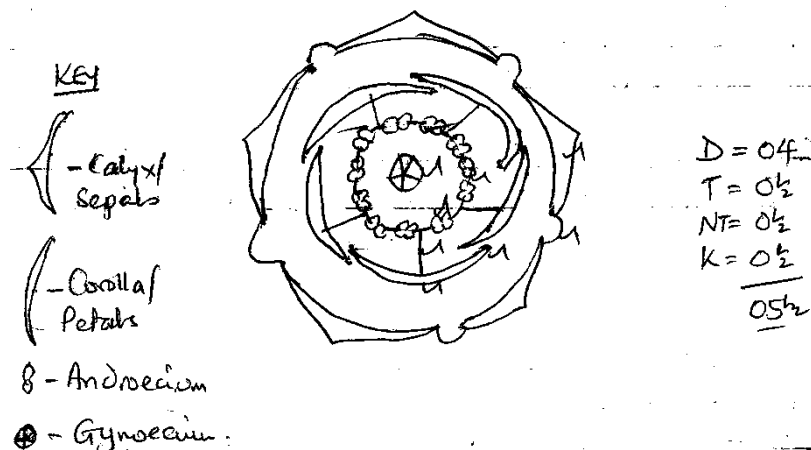
1. Florets on upper surface of bracts \therefore well exposed for pollination;
2. Florets attached by pedicel/stalk along midrib ensures firm attachment;

(ii) Disadvantages:-

Florets on upper surface of bracts: exposed thus not protected;

(c)

- (i) Pollens stick on back of hand; and do not fall off;
- (ii) Means at pollution, may pollen stick to the stigma to eventually ensure fertilization; occurs to produce seeds for continuation of the plan species.
- (iii) FLORAL DIAGRAM OF SPECIMEN V.



(d) (i)

T	W
1. Symmetrical/ regular; actinomorphic	Asymmetrical/ irregular Zygomorphic
2. Super ovary;	Inferior ovary
3. Round ovary;	Conical ovary
4. Stigma not lobed;	Cobed stigma
5. Calyx corolla distinguishable;	perianth

Any 1st 2

(ii) Both florets:

- Lack stalk/pedicel;
- Are bisexual;

Any 1st 2

= 24marks

END