PAPER 3 (PRATICAL)

YEAR 2018

SPECIMEN;

A---- Fresh/wet preserved mosquito larva in a petri dish containing water

B---- Fresh /wet maggot in a petri dish containing water

C---- Gill of fish (freshly procured) in a petri dish containing water

D---- Lung of a small mammal (freshly preserved)

E---- Dicotyledonous leaf (freshly plucked)

F---- Membranous wing of a cockroach

K----F lower of pride of Barbados or Caesalpinia

L----Mature Elephant grass or Guinea grass

M----Flower of Hibiscus plant.

QUESTION AND ANSWER

- Name the habitat of each of specimens A and B
  - Habitat of specimen A (Mosquito larva) ---Stagnant water, swampy areas, pond.
  - Habitat of specimen B (Maggot)---Rotting, decaying animals, decaying food, human faeces, pit latrine.

- Name the adult stage into which each specimens A and B would develop
  - Specimen A (Mosquito larva)--- Anopheles mosquito/ Culex mosquito/Aedes mosquito
  - Specimen B (Maggot)--- Housely

- Name the phylum and class common to the adult stages of specimens A and B
  - Phylum—Arthropoda
  - Class--- Insecta

- State 3 observable features of biological significance in; (i)specimen A and (ii) specimen B

i. Specimen A (Mosquito larva)
   - Presence of eyes for vision/sight
   - Presence of bristles to remain buoyancy, protection and defence.

- Presence of spiracles for breathing.

❖ Specimen B (Maggot)
- Small mouth for feeding
- Two pairs of spiracles for breathing
- Presence of hook at the mouth for tearing of food.

❖ State four observable structural differences between Specimens A and B

	Specimen A (Mosquito larva)	Specimen B (Maggot)
•	Presence of Bristle	No Bristle
•	Presence of Anal gills	No Anal gills
•	Has one spiracle	Has two pairs of spiracles
•	Presence of eye for vision	No eye

❖ state three observable similarities between specimens A and B
They both have mouth
They both have spiracles
They both have elongated body

❖ Name the organism from which each of specimens C, D and E are obtained.
- Specimen C (Gill) ----- Catfish
- Specimen D (Lung) ----- Goat
- Specimen E (C) --- Orange plant, Mango plant

❖ State the function common to specimens C (Gill),D (lung) and E(Dicotyledonous leaf
- The function common to specimen C, D and E is Gaseous exchange.

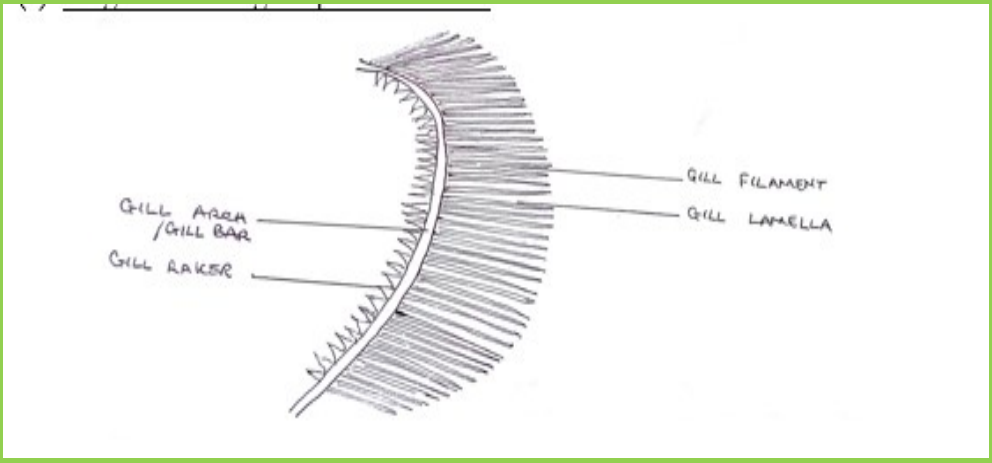
❖ State three observable features which adapt specimen C to its function
- Has a large surface area to increase the rate of diffusion of gases.
- It is moist for diffusion of dissolved gaseous exchange
- It has thin membrane to diffusion easy.

❖ State two observable structural similarities in specimens C and D
- They both have large surface area
- They both capillaries and is highly vascularized.

❖ State three observable structural differences between specimens C and D

	Specimen C	Specimen D
	Gill filaments present	No gill filament
	Presence of gill rakers	No gill rakers
	No pleural cavity	Presence of pleural cavity

- Make a drawing, 6cm to 8cm long of specimen C and label fully



- Name the floral part of specimen K (Pride of Barbados flower)
  - Petals/corolla
  - Stamen/androecium
  - Pistil/gynoecium
  - Sepals/calyx

- Indicate the number of floral parts in whorl of specimen K (Pride of Barbados flower)
  - Petals/corolla: 5/4+1
  - Stamen/androecium: 10
  - Pistil/gynoecium:
  - Sepals/calyx: 5/4+1

- Name the sex of specimen K (Pride of Barbados flower)
  Hermaphrodite /bisexual

- Give one reason for the answer to ; name the sex of specimen K;
  It has stamen and pistil/ male and female organs/ androecium and gynoecium.

- What is the symmetry of specimen K
  Bilateral symmetrical

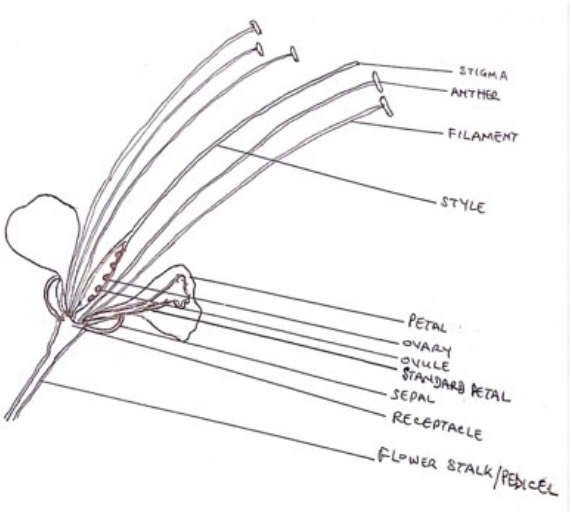
- Give one reason for the answer to; what is the symmetry of specimen K
  It can be cut into two equal halves along only one plane.

- Name one pollinating agent of each of specimen K (pride of Barbados) and L (Elephant grass)
  - Specimen K : Bees
  - Specimen L: wind

- State four observable difference between specimen K and L

	Specimen K	Specimen L
•	The stigma is sticky	The stigma is not sticky
•	Scented flowers	Non scented flowers
•	Large pollen grains	Small pollen grains
•	Flowers are conspicuous	Flowers are inconspicous

- Make a drawing 8cm-10cm long of the longitudinal section of specimen K and label fully.


STIGMA
ANTHER
FILAMENT
STYLE
PETAL
OVARY
OVULE
STANDARD PETAL
SEPAL
RECEPTACLE
FLOWER STALK/PEDICEL