



BIOLOGY PRACTICALS

Punjab Boards
Matric Classes

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Marking Scheme

Prepare Temporary Mount
Draw a Labelled Diagram
(3+3)

Identify specimen/model
Write its Reason of identification
5+5 =10

Experiment
Procedure, Observation, Result (also diagram)
3+2+3

Viva
3

Copy
3

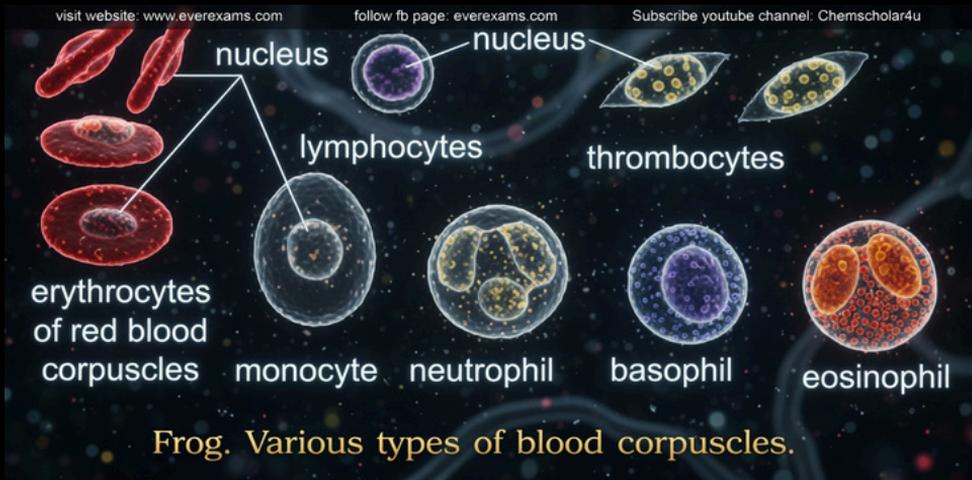
Question 1

Prepare Temporary Mount
Draw a Labelled Diagram

Temporery Mount

Draw a Labelled Diagram

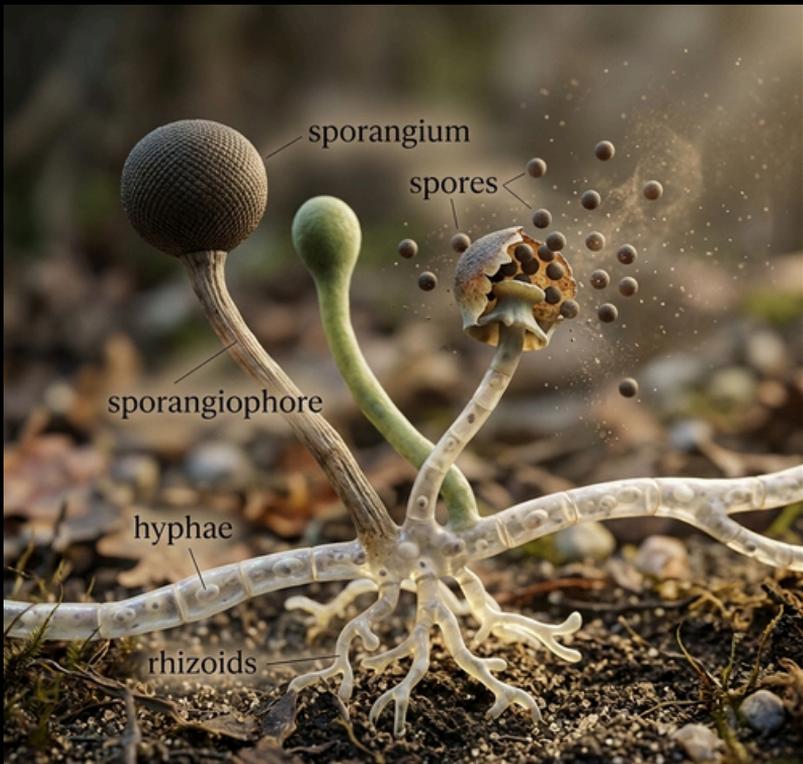
Frog's Blood



Temporary Mount

Draw a Labelled Diagram

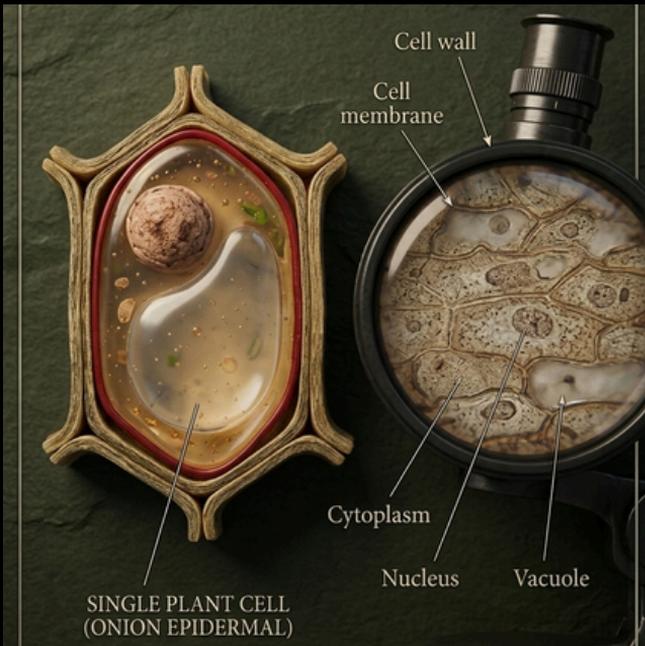
Rhizopus (Bread Mold)



Temporary Mount

Draw a Labelled Diagram

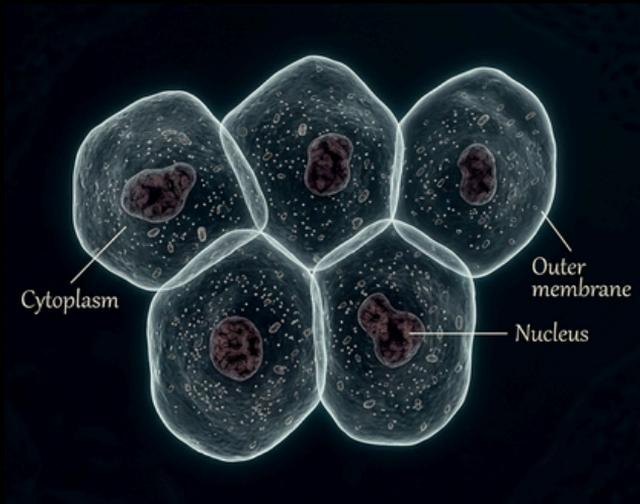
Onion Epidermis



Temporary Mount

Draw a Labelled Diagram

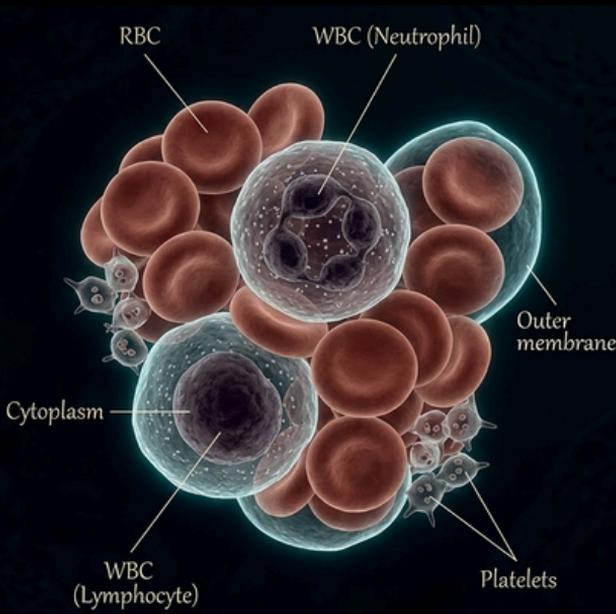
Human Cheek Cells



Temporary Mount

Draw a Labelled Diagram

Human Blood Cells



Question 2

Identify the specimen

Write reason of identification and Characteristics

Bacteria

Reason of identification: cell surrounded by cell wall.

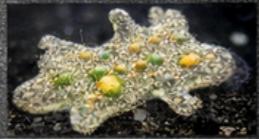
Characteristics: Prokaryote unicellular.



Amoeba

Reason of identification: irregular shape

Characteristic: Pseudopodia are present, unicellular eukaryotic.



Paramecium

Reason of identification: Slipper shaped

Characteristic: Cilia are present, unicellular eukaryote.



Euglena

Reason of identification: Single flagellum is present

Characteristic: Unicellular eukaryotic, chloroplast is present.



Chlamydomonas

Reason of identification: Pear like shape

Characteristic: Unicellular flagellates, cup-shaped chloroplast.



Volvox Colony

Reason of identification: Ball-like colony that contains daughter colonies.

Characteristic: Colonial flagellates.



Hydra

Reason of identification: Vase like body, tentacles are present

Characteristic: Diploblastic animal, sac-like digestive system.



Jellyfish

Reason of identification: Umbrella like shaped

Characteristic: Diploblastic animal, sac-like digestive system.



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Planaria

- ▶ Reason of identification: flat body(ribbon-like body).
- ▶ Characteristic: Triploblastic, sac-like digestive system.



Liver fluke (blood fluke)

- ▶ Reason of identification: flattened body(leaf-like body).
- ▶ Characteristic: Triploblastic, sac-like digestive system, sucker is present at anterior end.



Tapeworm

- ▶ Reason of identification: flat body(ribbon-like body).
- ▶ Characteristic: Triploblastic, sac-like digestive system.



Ascaris

- ▶ Reason of identification: Cylindrical body pointed at both ends.
- ▶ Characteristic: Triploblastic, tube-like digestive system, parasitic.



Earthworm

- ▶ Reason of identification: Metameric Segmented tube-shaped body.
- ▶ Characteristic: Triploblastic, tube-like digestive system, free-living.



Leech

- ▶ Reason of identification: Segmented body.
- ▶ Characteristic: Triploblastic, tube-like digestive system, free-living.



Snail

- ▶ Reason of identification: calcareous shell contains soft-body animal.
- ▶ Characteristic: Muscular foot is present for locomotion.



Dengue Mosquito (Aedes aegypti)

- ▶ Reason of identification: White spot on black body.
- ▶ Characteristic: Muscular foot is present for locomotion.



Starfish (Sea Star)

- ▶ Reason of identification: Jointed Appendages, wings for flight.



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Reason of identification: Star shaped body typically have a central disc and five arms.

Characteristic: Tube-feet present for locomotion, marine habitated animals.

Toad

Reason of identification: Dry, leathery skin, short legs.

Characteristic: Amphibians(live in both environment).

Frog

Reason of identification: They have glandular skin that lack scales

Characteristic: Amphibians(live in both environment), cold-blooded.

Shark

Reason of identification: Mouth is ventrally located, with upper and lower jaws.

Characteristic: cartilaginous fishes, do not have swim-bladder.

Jawless fish

Reason of identification: long and eel like body with no paired fins.

Characteristic: Do not have jaws, do not have swim-bladder.

Tortoises

Reason of identification: Skin is hard with scutes and bony plates.

Characteristic: Have two pair of limbs, cold-blooded.

Parrot

Reason of identification: Body is covered with feathers.

Characteristic: Forelimbs modified into wings, warm-blooded.

Pigeon

Reason of identification: Body is covered with feathers.

Characteristic: forelimbs modified into wings, warm-blooded.

Bat



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1. Model of Mammalia Eye

Reason of identification: spherical fluid filled structure containing lens.

Characteristic: made up of three layers sclera, choroid and retina.



2. Model of Human Brain

Reason of identification: a soft, shiny, grayish-white, mushroom-shaped structure.

Characteristic: Divided into three parts forebrain, midbrain and hindbrain



3. Model of Human Kidney

Reason of identification: dark red bean-shaped organ.

Characteristic: urine formation



4. Model of Sheep's Kidney

Reason of identification: Bean shaped organ.

Characteristic: urine formation



5. Villi of Small Intestine

Reason of identification: finger-like projections present inner walls of small intestine.

Characteristic: increase the surface area for better absorption of food.



6. Bulb of Onion

Reason of identification: short vertical stem having adventitious roots with overlapping thick fleshy leaves

Characteristic: underground shoot, a tuft of adventitious roots arise from the base



7. Stomata opening & closing

Reason of identification: bean shaped stomata surrounded by guard cells.

Characteristic: Guard cells control the opening and closing of stomata.



exchange of gases.

Rhizome (ginger)

Reason of identification: is a swollen bearing roots and leaves.

Characteristic: Nodes and adventitious roots are present



Stem tuber(potato)

Reason of identification: Swollen underground stem with stored food.

Characteristic: Eye buds are present.



Corm of Colcasia

Reason of identification: Nodes and buds are present with adventitious roots.

Characteristic: Short swollen vertical underground stem



Mosses

Reason of identification: Small flowerless plant green clumps

Characteristic: Do not have vascular bundles.



Adiantum

Reason of identification: Leaves with spores.

Characteristic: seedless vascular plant.



Male cone of Pinus

Reason of identification: Small brown tube like clusters of scales(microsporophyll).

Characteristic: Vascular gymnosperm plant.



Dicot root

Reason of identification: Roots hairs are present.

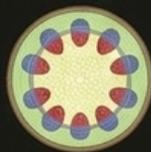
Characteristic: Phloem is present between the arms of xylem.



Dicot stem

Reason of identification: Vascular bundles arranged in a ring.

Characteristic: Presence of pith, vascular bundles, and cork.



Question 3

Experiment
One from 9th
one from 10th
Attempt only one

Consult your Practical Copies