**AGRICULTURE PAPER 3**

1. a) (9mks)

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| **SPECIMEN** | **TESTS** | | **OBSERVATIONS** | **DEDUCTIONS** |
| A | Starch | To 1 cm3 of extract I added 2 drops of iodine solution | Blue black Aecipitates were seen | Starch present |
| Reducing sugars | To 2cm3 of the extract, I added 2cm3 of Benedict solution and boiled in a warm water bath | The blue solution turned green then to yellowish green on boiling | Reducing sugars present |
| Proteins | To the extract, I added Naoh and then CuSO4 solution | The solution attained the blue colour of CUSO4 | Proteins absent |
| B | Starch | To 2cm3 of extract I added 2 drops of iodine solution | The brown colour of iodine was seen | Starch absent |
| Reducing sugars | To 2cm3 of the extract, I added 2cm3 of Benedicts solution and boiled in warm water bath | The solution remained blue | Reducing sugars absent |
| Proteins | To the extract, I added NoaH and then CuSO4 solution. | The solution turned purple | Proteins present |

b) (1mk)

specimen A Because it contains carbohydrates which supply energy needed by the animal during working.

2. a) C Black in colour, contains many organic matter, it is moist, has soil organisms.

D: brown in colour, contains few organic matter, has less moisture.

b) (i) C: Many organic matters floated on the surface

D: few organic matter seen floating on the surface.

(ii) C: Four (4) types seen

D: 1 type seen

c) (i) Specimen C because it contains soil organism which speed up rate of organic matter decomposition. Also soil organisms breaks up soil during burrowing aiding weathering and improving soil aeration.

(ii) - soil moisture

- Organic matter content

3. a) E: Perennial because it has many nodes with buds for increased propagation.

F: Annual because it has short roots with no storage structures seen.

G: Sedge because it has triangular stem and characteristic of sedges.

b) E: Has buds on nodes for propagation, succulent stems to survive drought conditions, green leaves enabling photosynthesis to take place

F: Has many seeds with hooks for attachment to animals for dispersal.

G: Has bulb for surviving harsh conditions and propagation, has narrow leaves to reduce rate of transpiration.

c) E: Spraying with selective translocated/systematic herbicide because it has succulent stems.

F: Slashing before flowering, cultivation before flowering, mulching, uprooting before flowering, spraying with appropriate selective herbicides.

4. a)(i) J: Dark skinned, has 4 pairs of legs, has sucking mouth part.

**K:** Leaf-like in shape/oval in shape, Greyish brown in colour, Dorsally flattened.

(ii**) J:**Anthropoda because jointed legs, presence of exo-skeleton.

**K**: Platyhelminthes because of flattened body

b) **J.** On the skin (outside) because it has legs for locomotion, dark skinned for camouflage.

**K**: inside the gut/liver because it lacks legs, flattened body to fit inside ducts.

c) **J**:

* Spraying with acaricides
* Rotational grazing
* Dipping animals regularly
* Burning infected pastures

**K:**

* draining pasture land to control water snails
* Deworm infected animals with appropriate dewormers
* Spray mashy areas with copper sulphate to kill snails
* Living of mashy area to prevent hatching of eggs of liver flukes
* Use of ducks to eat snails.

5. a) (i) **P**:

**Q**:

(ii) **P**: Regained its original position.

**Q**: Deformed/bent/did not recover its original position.

b) (i) P: Suitable for use because it can recover its original form position after use

Q: not suitable because it is deformed when stressed. It can not restore its original shape.

(ii) P: elasticity

Q: Ductility

c) - Use on the right job/proper use.

- Coat with oil or grease to prevent rusting

**END**