**S.4 PHYSICS**

**Requirements:**

**Each student should be provided with:**

**Qn.1:**

* Nullified spring with a pointer
* Meter rule (I half meter rule)
* A mass hanger of 100g and six slotted 100g masses
* Stop clock
* 2 pieces of wood 2cm by 3cm

**Qn.2:**

* 1 soft board
* A white sheet of paper
* Four thumb pins
* Four optical pins
* A glass block of 11.6cm by 6.4 by 2cm
* A complete geometry set

**Qn.3:**

* 1 ammeter (0 – 1A)
* 1 voltmeter (0 – 5V)
* A standard resistor of resistance 2Ω
* 1 switch
* 2 new dry cells
* 8 connecting wires
* A double cell holder
* 2 meters of cell tape
* A constant wire SGW 28, 110cm long
* Two crocodile clips

**CONFIDENTIAL AGRICULTURE A**

F1 – Unfertilized egg but incubated for 3 days

F2 – Fertilized egg incubated for 5 days

F3 – Cracked & dirty

F4 – White thin shell

A – Solution of starch

B – Egg albumen solution

C – Glucose solution

D – Sucrose solution

S1 – Loam/ brown soil mixed with 0.1m solution of HCl

S2 – Brown soil mixed with 0.1m of NaOH

G – Tomato plant infected with tomato blight

H – Coffee leaf attacked by rust

I – Maize plant attacked by maize stalk borer

J – Coffee berry attacked by coffee berry disease

R – Termite

K – Cotton stainer

L – Needle and syringe

M – Clinical thermometer

N – Drenching gun

P – Troca and canular

2 Petri dishes

6 test tubes

Universal indicator

Barium Sulphate

PH charts

**BIOLOGY A**

**Requirements:**

* Fresh killed toad labeled K
* 1cm3 of Irish potato cube labeled B1
* 1cm3 of boiled and cooled Irish potato cube labeled B2
* 15cm3 of 5% hydrogen peroxide labeled Z
* 15cm3 of 1m sucrose solution labeled X
* Filaments of spirogyra in Petri dish labeled P
* Bread mould units on Petri dish with little water to dissolve bread particles labeled Q
* Fresh complete units of moss labeled R
* Young maize root system labeled S
* 7 test tubes
* Microscope
* 2 slides
* Labeling tapes
* 10 cm3 measuring cylinder
* Razor blade
* Acidified phyroglycinol stain
* Small mortar and pestle

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**Specimens and Apparatus**

1. A1 – loam sol with a lot of organic matter (neutral/ slightly acidic)

A2 – Sandy soil highly leached/ acidic

* Water
* Measuring cylinders 2 per candidate
* Ruler I each
* 4 test tubes
* Universal indicator
* PH chart

1. B1 – wire strainer

B2 – fencing post

B3 – small roll of barbed wire

B5 – U-nail / staple

1. C1 – Gizzard

C2 – Rumen

1. D1 – Cassava stem with leaves affected by cassava mosaic disease

D2 – Whole ground nut plant and pods affected by ground nut rosette

1. E1 – Pellets

E2 – Hay

E3 – Chopped elephant Grass

E4 – Mineral block