Jaffna Hindu College
1ˢᵗ Term Evaluation Exam - 2022

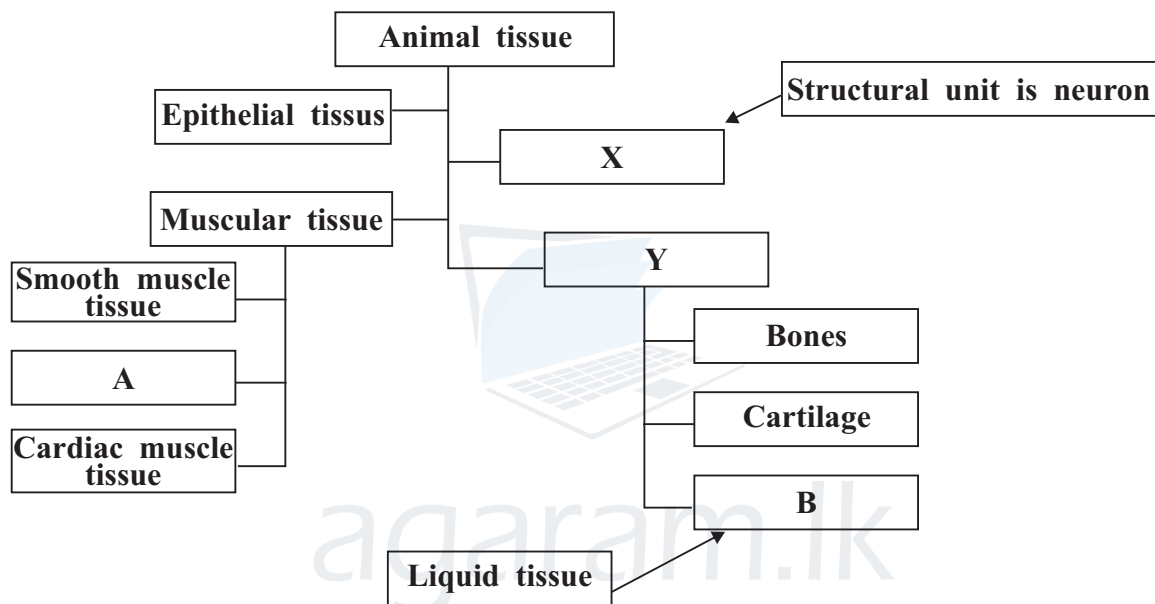| Grade - 11 | Science | Time : 2.00 Hours |

Name / Index No : ....

Part - II B

❖ **Of the questions No 5, 6, 7, 8 and 9 answer any three questions only.**

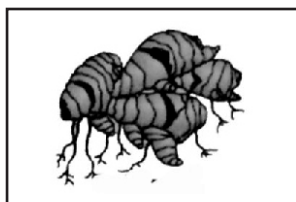**05. A.** A tissue is a group of cells, in close proximity, organized to perform one or more specific functions.

i. Identify A, B, X and Y.
ii. Write two special features of epithelial tissue.
iii. Write a difference between A and smooth muscle tissue.
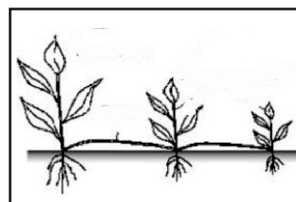iv. Name two cells present in B.
v. What is the function of X?

B. Using the given pictures and answer the following.
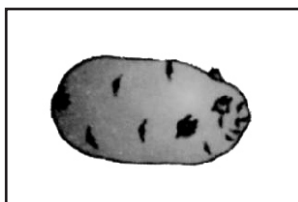
| A | B | C | D |

i.   Name the vegetative part which help for the vegetative reproduction in A, B, C and D?
ii. What is the common name given to A and B?
iii. Write two advantages of vegetative reproduction.

iv. Flowers are sexual organs of flowering plant
   a. Name the main two process of sexual reproduction in a flower.
   b. Sexual reproduction in plants is better than asexual reproduction. Explain why?

06. **A.** Paper chromatography was used to find the composition of chlorophyll.

Piece of paper ⟶

Chlorophyll spot
Solvent
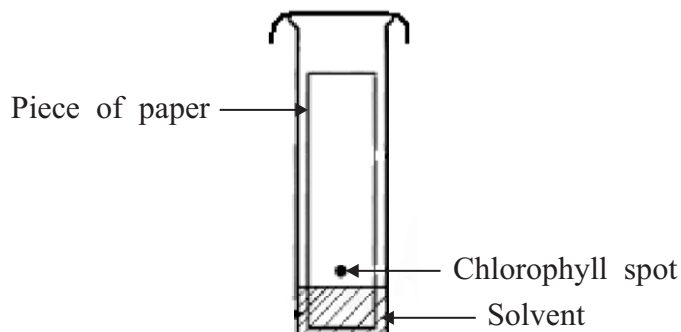
i.   Name a suitable solvent for this experiment.
ii. What would your observation after some time?
iii. Write two uses of paper chromatography.

B. A group of students conduct an experiment to separate salt from rock by using the given experiment.

| A	B	C	D	E

i. Which equipment was used to grind up the rock salt at the beginning of the experiment?

ii. The rock salt was placed in a container and hot water added. The mixture was than stirred to allow the salt dissolve.
   a. Name the in which the crushed rock salt was placed before the hot water was added?
   b. Why hot water was addend to dissolve the rock salt?
   c. After dissolving the rock salt what type of mixture obtained.
   d. Name the solvent and solute of the above mixture?

iii. 5.85g of NaCl was added to the volumetric flask and the total volume of the solution formed was $100 \, cm^3$.
   a. Name the glass wear which is used to measure NaCl?
   b. Find the number of moles of NaCl added? (Na = 23, Cl = 35.5)
   c. Calculate the concentration of NaCl in the solution.

07. A. Use the diagram below to answer the following questions.
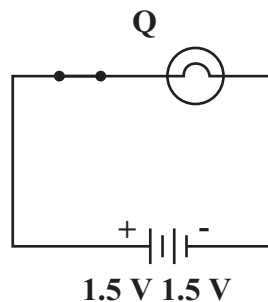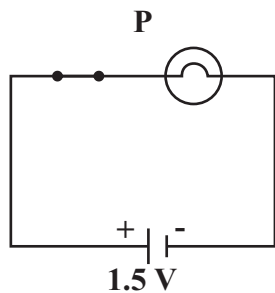
i. What is the total voltage in each circuit?

ii. How much current would be measured to each circuit if the light bulb has a resistance of 3 ohms?

iii. Is the bulb brighter in circuit P or circuit Q why?

iv.
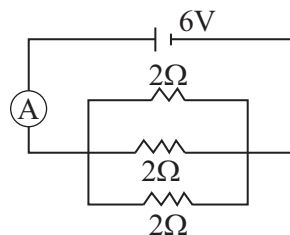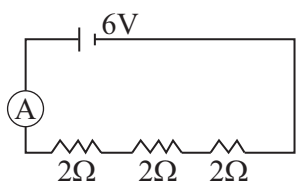
a. In which circuit, resistors are connected in parallel.

b. What is the equivalent resistance in B.

c. What is the ammeter reading in circuit A?

**B.** A electric motor lifts an elevator 10 m in 20 sec by exerting an upward force of 1.5×10^3 N.

i. Write two types of energy created here.

ii. Calculate the work done.

iii. What power does the motor produce?

08. A. The given punnet chat explain the mendel's monohybrid Cross.
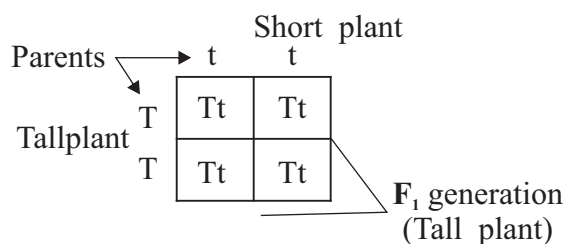
i. What are the contrasting characters used in the mono hybrid cross?

ii. Write the genotype of tall plant in parent?

iii. In which instance does meiosis occur.

iv. According to the above instance, show using a diagram, how characters are inherited in F_1 generation.

v. Write the phenotypes of the offsprings obtained in F_2 generation, and the ratio of it.

B. Answer the question by using the given wave.

Direction of travel
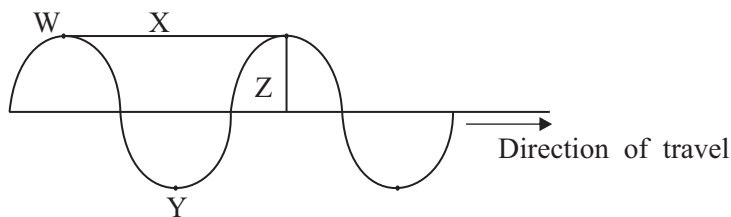
i. a. What kind of wave is shown above?
    b. Label W, X, Y and Z.
    c. Which one is affect the loudness of sound?
   d. In what direction would the particles in this wave move, relative to the direction of wave travel?

ii. A hack saw blade makes 10 vibrations in 20 seconds.
    a. Calculate the frequency of its vibration.
    b. Vibration is necessary for producing sound explain why the sound produced by every vibrating body cannot be heard by us.
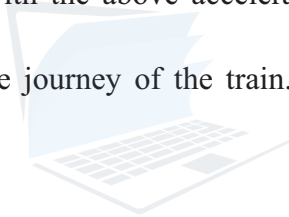
09. **A.** A reactivity series of metals given below.

i.   Identify the elements A, B and C.
ii. Which element has the most reactivity
iii. Name two nobel metals.
iv. Write the balanced chemical equation for the reaction of magnesium with hot water.
v.   Write two uses of reactivity series.

B.
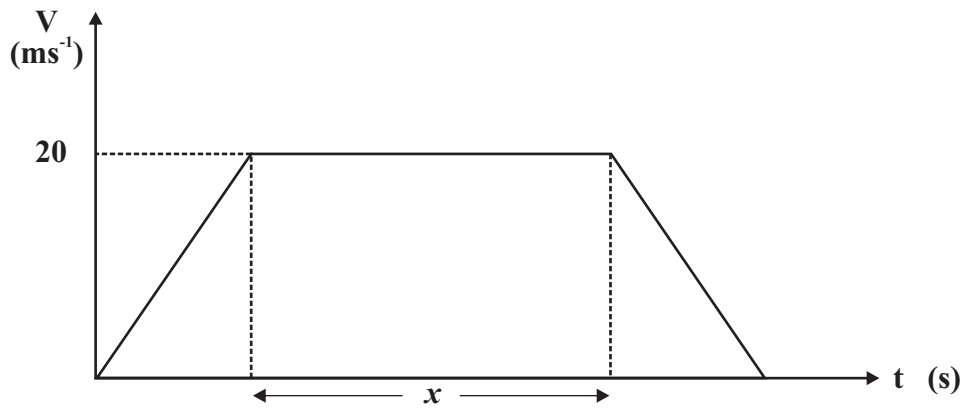
The above velocity - time graph represents the journey of a train traveling along a straight horizontal track between two stations, which are 1.7 km apart. The train leaves the first station accelerating uniformly from rest for 50sec until it reaches a velocity of 20 ms^{-1}. The train then maintains this velocity of x seconds before decelerating uniformly at 1ms^{-2} coming to rest at the next station.

i. Find the acceleration of train during the first 50 sec of its journey.
ii. How far does the train travel with the above acceleration.
iii. Find the value of *x*.
iv. Find the total time taken for the journey of the train.