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අනාවරණ පරීක්ෂණය - 2020

Diagnostic Test - 2020

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Science

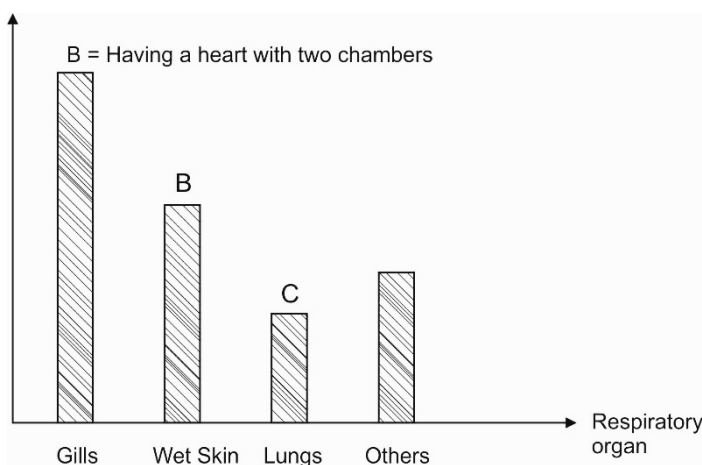
Time : 01½ hours.

Name / Index No :

Grade 11

• Answer all the questions

1) (A) The Data collected on a special environmental unit by a group of students is illustrated below graphically.



i. What type of ecosystem would the relevant environment be? (02)

.....

ii. Write two features of organisms those two respire using gills. (01)

.....

.....

iii. Write an adaptation shown by respiratory surface of organisms belong to group B (01)

.....

iv. Define 'respiratory surface'. (02)

.....

.....

v. What act as the respiratory surface in lungs? (02)

.....

B) When considered the spread of plants in above environment, plants closer to the above surface was seen wide spread.

i. What is the main limiting factor that affects the above situation? (02)

.....

ii. The cuticles or stomata could not be seen in leaves of some of the above plants. What is the reason for it? (03)

.....

iii. It was observed removal of air bubbles from the leaves of the plants mentioned in above (ii).

a. What is the biological process related with the above phenomena? (01)

b. Write the balance chemical equation for the above phenomena. (01)

c. What is the organ adapted to identify vibrations in organisms of group A? (01)

iv. When vibration is made in this environment animals started moving away from that place. According to the above statement

a. Mention two features of organisms mention in the above statement (02)

b. Regarding the transmission of waves at the above incident, make a (✓) against the relevant features of transmitted waves and mark a (×) against the irrelevant and features. (03)

- A type of mechanical waves ()
- Get transmitted as longitudinal waves ()
- It makes crests and troughs. ()

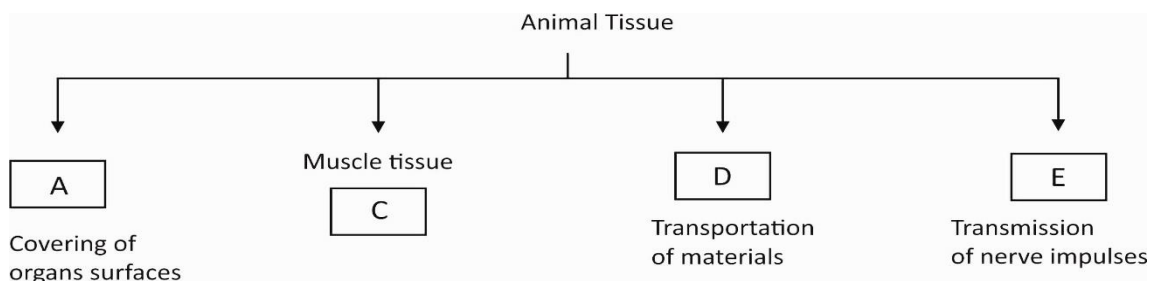
c. A Droplets of water taken from the above when a pH paper is wettened with a droplet of water taken from the above environment, it was in the range of 5 – 6. (02)

a) Mention whether the tested droplet of water is acidic, basic or neutral?

b) The above-mentioned droplets of water is in above mentioned pH range due to dissolving one of the gaseous components present in air. What is that gaseous component? (02)

2.

(A) A Concept map of classification of animal tissue is given below.



(B) fill the blanks A, C, D, E (04)

- A.
- B.
- C.
- D.

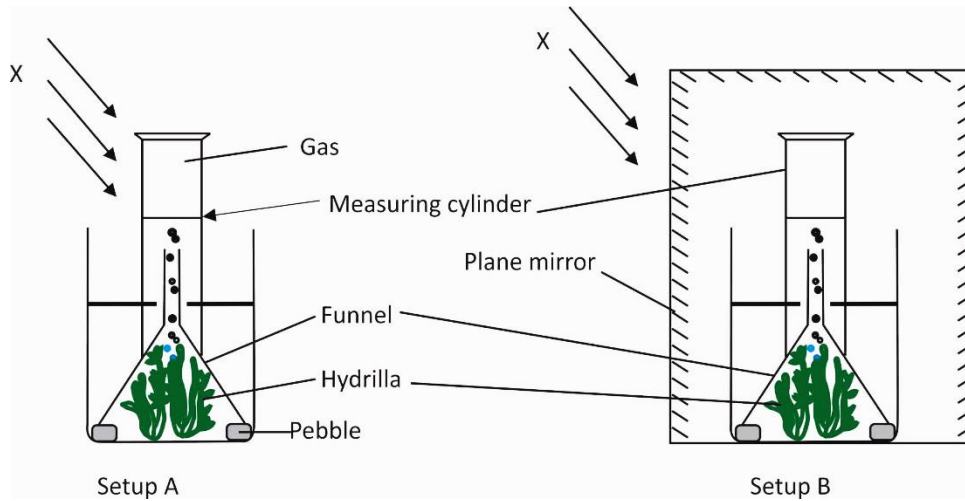
(C) Write another function of A other than covering surfaces. (02)

(D) What is the basic behaviour shown when muscle tissue gets activated? (03)

(E) Write the letter of the tissue relevant to the features given below (04)

- i. Cells a present on a basement layer. ()
- ii. Cylindrical, unbranched multinucleated ()
- iii. Presence of cells with nucleus and without nucleus, some cells show phagocytic movements. ()
- iv. Cells with a cell body and projections arise from it. ()

B) A Set up a range to test the factors required for photosynthesis is given below.



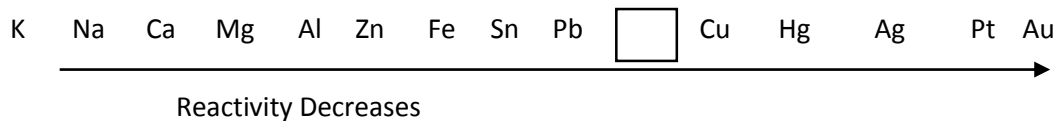
Both A and B set up are identical. All the sides of setup has covered by plane mirrors. X is a type of electromagnetic waves that lies in the range of 4.25×10^{14} Hz to 7.6×10^{14} Hz.

- Which factor required for photosynthesis is tested using the above setup? (02)
.....
- What is the expected observation? (02)
.....
- What is the type of waves mention as X above? (03)
.....
- Write a factor that is to be kept constant during the activity. (02)
.....

C) An air volume of 30 cm^3 is collected in gas jar of set up A during 5 minutes. Calculate the rate of photosynthesis.

.....
.....
(03)

3) A. Activity series of metals is given below.



- Write the symbol of the material matches with the description in the blank. (05)
 - The metal that store in Paraffin in laboratory
.....
 - The metal that burns with a bright white flame and remains as a white powder
.....
 - The metals that reacts vigorously with dilute acid
.....
 - The element indicates as X above
.....
 - The metal itself exist in nature as mines
.....

- ii. Write two observations of the reaction of metal sodium with water. (01)

.....

.....

- iii. What is the metal that makes $2+$ Ion that causes blue colour in aqueous solution? (02)

.....

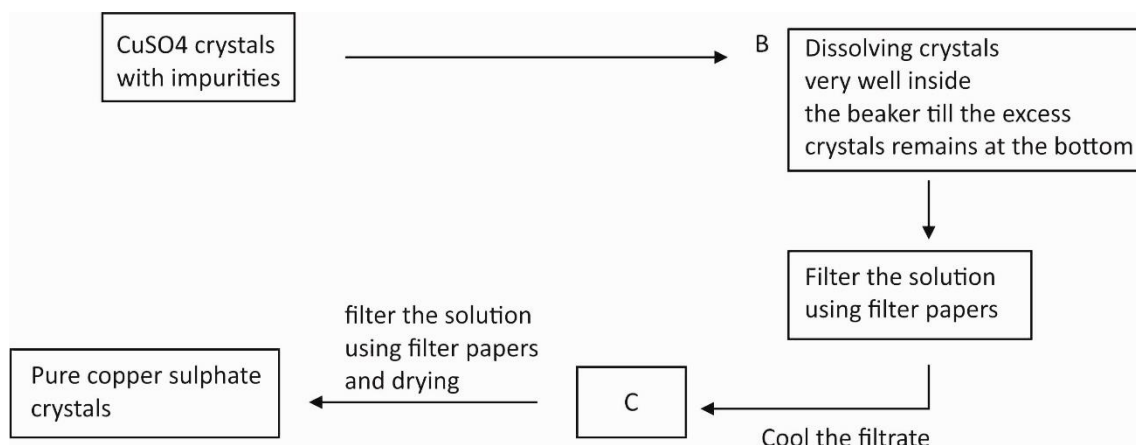
- iv. Write the chemical formula and type of the bond for the compound made between magnesium and chlorine.

.....

.....

(02)

B) step of an activity is given below



- i. How do you call the about method of separation? (03)

.....

- ii. How do you call the solution made in above 'B'. (03)

.....

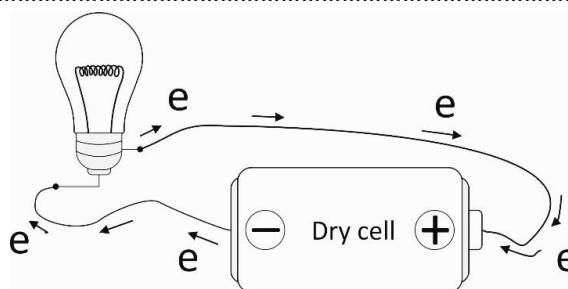
- iii. How do you call type of the mixture seen in solution 'C'? (03)

.....

- iv. what is the special property of crystals D than crystals of A? (03)

.....

4)



A. A simple electric circuit is given above 'e' indicates electrons.

- i. How do you call the force that release electrons in external circuit? (03)

.....

- ii. What is the direction of conventional current flow through this circuit? (03)

.....

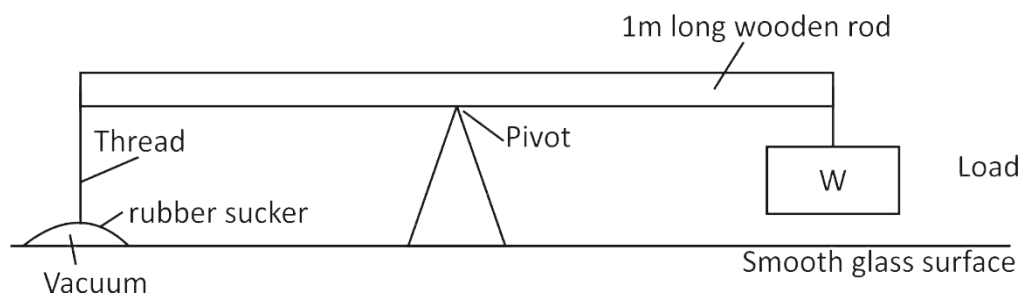
- iii. What is the direction of convectional current flow through the cell? (02)

.....

- iv. It feels hot when we touch the cell after circuit is kept activated for some time. mention the way of heat generation for the above phenomenon. (02)

.....

B.



- i. If the above setup is kept in equilibrium how does the atmosphere contribute for that? (02)

.....

- ii. The area of the rubber sucker is 0.02 m^2 , atmospheric pressure is 100000 Pa . Calculate the magnitude of the weight W. (03)

.....

.....

- iii. Mention two scientific principles you used in above calculation. (04)

.....

- iv. Draw the behaviour of the rod if the rubber sucker is pierced. Indicate the condition of the rod with the help of weight W and the direction. (02)

.....

- v. Draw the force acted on the rod when it is kept under equilibrium. (04)

.....