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மேல் மாகாணக் கல்வித் திணைக்களம்
Department of Education - Western Province

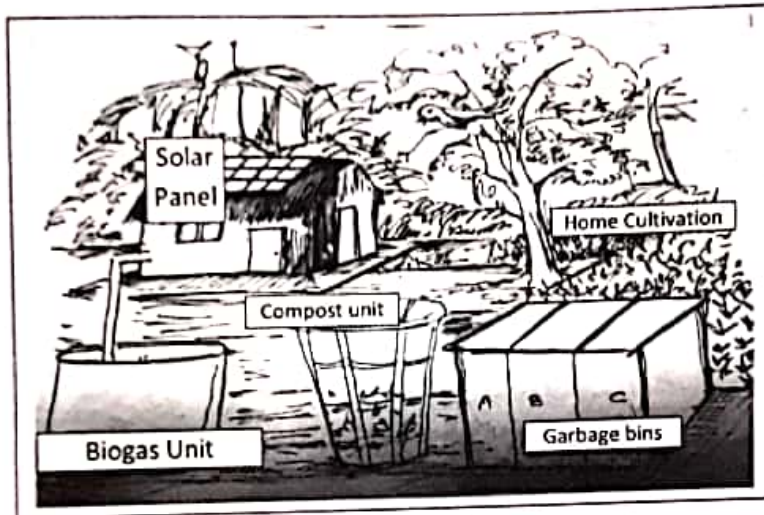
වර්ෂ අවසාන ඇගයීම - 2021
ஆண்டு இறுதி மதிப்பீடு
Year End Evaluation

ශ්‍රේණිය Grade	11	විෂය මාලාව Subject	Science	පත්‍රය අංකය Paper	11	පැය කාලසීමාව Hours	03
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Part A

- ❖ Answer the four questions in part A, in the space provided
- ❖ Of the five questions in Part B answer three questions only.

01.



(A) Given above is a diagram of a garden which is developed by using environmental management.

(i) Write two examples to show the garden developed in a environmental friendly manner (Marks 2)

(ii) Write two advantages of using compost(carbonic fertilizer) in the garden (Marks 2)

(iii) Vessel C, is used to collect plastic & polythene. Write suitable labels for vessel A & B. (Marks 1/2X 2)

(iv) Write down two renewable energy resources which are used in the above figure. (Marks 1/2X 2)

(v) Food mileage could be minimized by the cultivation of all the crops which are need to house. State one advantage of that. (Marks 1)

(vi) What type of microorganism is used to produce bio gas? (Marks 1)

(B) Following food chain can be seen in the above garden.

plants → Caterpillar → Coucal (Atikukula) → Eagle

(i) What is the secondary consumer in the above food chain? (Marks 1)

(ii) 100000J of energy contain in plant leaves. Calculate the energy flow to the eagle (Marks 1)

(iii) To which biological process waste the higher percentage of energy in energy dissipation (Marks 1)

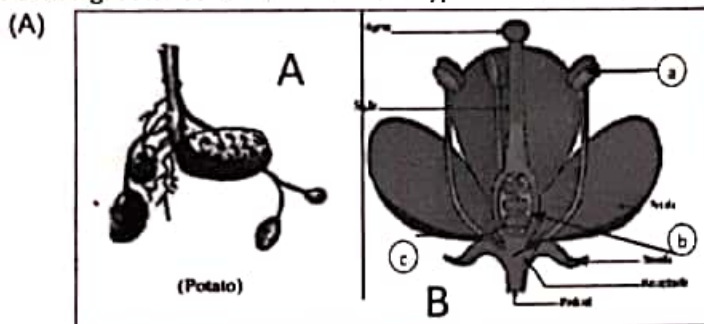
(C) (i) How does is biological fixation occurred in Nitrogen cycle? (Marks 1)

(ii) Green colour algae layer is grown on the surface of a reservoir because of a chemical compound produced in industrial fixation. What is the name given to that process? (Marks 1)

(iii) Among the Psudomonas & Nitrobacter, name the denitrification bacteria? (Marks 1)

(iv) What is the reason for leguminous plants grow even in soil lack in nitrogen? (Marks 1)

02. Underground stem of Potato and typical flower are shown as A and B respectively in the diagram.



(i) Name the underground stem in potatoes (Marks 1)

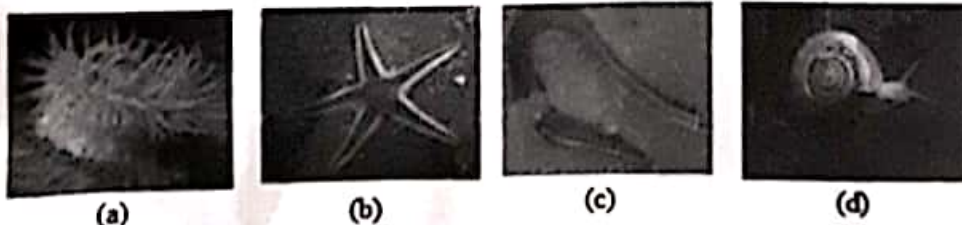
(ii) Write two differences between vegetative propagation and propagation occurs using a flower (Marks 2)

(iii) What type of cell division is occurred in part "a" in the flower? (Marks 1)

(iv) When add a drop of Iodine solution to a piece of potatoes it turns into purplish blue. What is the major nutrition in potatoes? (Marks 1)

(v) What type of tissue could be seen in a piece of potato under light microscope? (Marks 1)

(B) Select the suitable letter of invertebrate a to d according to the characteristics given below.

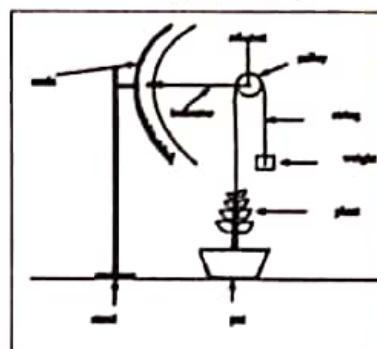


(i) All are marine

(ii) Show different morphological forms

- (iii) Have a muscular foot
- (iv) body is divided into segments internally and externally.....
- (v) Locomotion occurs in using tube feet

(Marks 1x 5)



(C)

(i) What is the apparatus in this picture?

..... (Marks 2)

(ii) Write two protective method that should be taken when it used

..... (Marks 2)

03. (A) The attractive forces are placed among the atoms or ions, resulted by the rearrangement of electrons in the valence shell, for stabilising the atoms of elements.

(i) What is the common name of these attractive forces? (Marks 1)

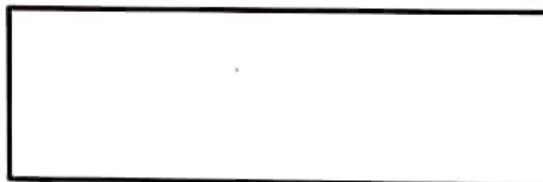
(ii) Atomic number of X is 11. Write the ionic half equation to form cation from x atom. (Marks 1)

(iii) What is the type of chemical bond present in X atom with Cl atom? (Cl = 17) (Marks 1)

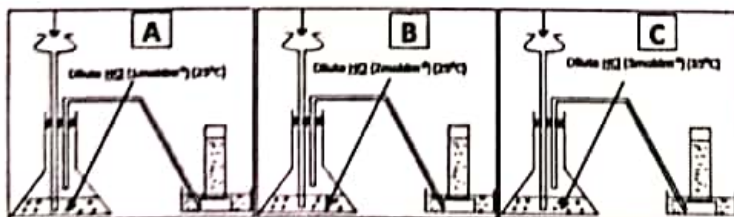
(iv) Write two physical characteristics of the compound, which is formed in the reaction between X with Cl.

.....(Marks 2)

(v) In the given box, draw the Lewis structure of molecule, which is formed with the combination of Carbon and Chlorine (C= 6, Cl= 17)



(B) Following figures of 3 apparatus are used to prepare 100cm³ of gas in the laboratory.



(i) In which apparatus produce 20cm³ of H₂ gas in the least time duration? (Marks 1)

(ii) Write the balance equation for the reaction of Zn with HCl. (Marks 1)

(iii) What factor that affects the rate of reaction can be shown by each of the following pairs of apparatus? a) A and B.....

b) B and C..... (Marks ½ x2) (Marks 1)

(iv) Write two uses of hydrogen gas

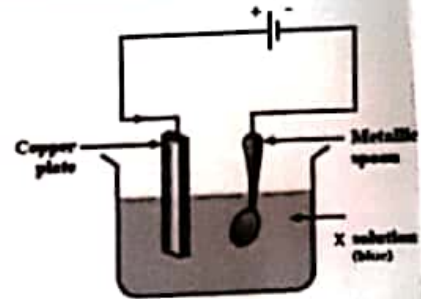
(C) Following figure is used for electroplating

(i) What can you see on iron spoon? (Marks 1)

(ii) What is the chemical formula of X? (Marks 1)

(iii) Write the half reaction occurring at the anode. (Marks 1)

(iv) Write another use of electrolysis (Marks 1)

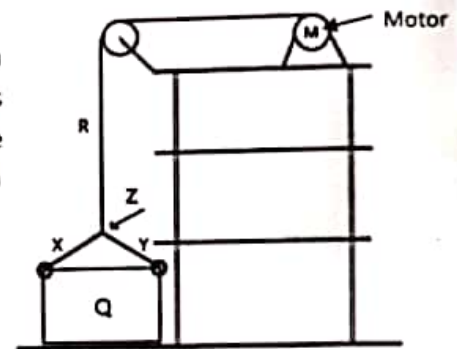


04. (A) The following diagram shows the simple machine use to raise building materials to the upper store in a construction site. The box Q is full of sand and mass of it is 10 Kg. box Q fixed to R rope using X and Y strings at the place Z. M motor gives force to raise the box Q. ($g = 10\text{ms}^{-2}$)

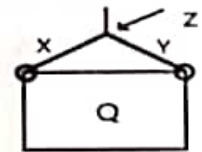
(i) Mark the corresponding forces exert on the box Q, when it slightly raise upward (Marks 2)

(ii) Write two conditions that should be satisfied to be in equilibrium of box Q when it hangs at Z

(iii) What is the tension of R string?



(Marks 2)



(Marks 1)

(B) M motor is connected to 230V main current.

(i) The motor has marked as 1000W. What is the meaning of that?

(Marks 1)

(ii) 0.5 minutes takes to raise the box Q, upwards. Calculate the amount of electric energy it consumed?

(Marks 2)

(iii) Calculate the potential energy of box Q, lifting to 10m upward?

(Marks 2)

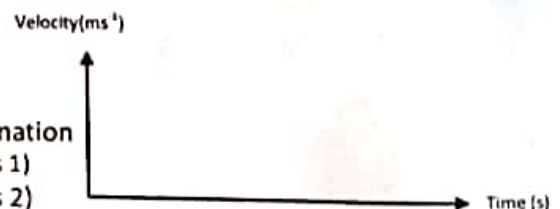
(C) The following table shows the variation of velocity of an object falling freely under gravity with time.

Time (s)	0	1	2	3	4	5
Velocity(ms^{-1})	0	10	20	30	40	50

(i) Plot the velocity-time graph according to above information (Marks 1)

(ii) What is the height that it fell from?

(Marks 2)



(iii) Mass of that object is 0.5kg. Calculate the momentum of the object when it reaches the ground.

(Marks 2)