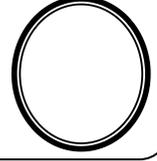




யா/ஹாட்லிக் கல்லூரி,பருத்தித்துறை.  
J/ Hartley College, Point Pedro.



விடுமுறைக்கால செயலட்டை-2020-தரம் 11  
Holiday Worksheet – 2020 –Grade 11

SCIENCE

34

E

I,II

மூன்று மணித்தியாலங்கள்  
Three hours

கட்டெண்  
Index No

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SCIENCE

Part 1

- Answer all of the multiple choice questions
- Answer all of the part II – structure questions
- Answer All question of the part II – Essay question

01. Organelle in which photosynthesis occurs?

1. Golgi complex      2. Nucleus      3. Chloroplasts      4. Mitochondrion

02. The element found in all of the proteins, are

1. C,H,O,N,S      2. C,H,O      3. C,H,O,N,P      4. C,H,O,N

03. Person who explained that how the character of species change as inherited characteristics, at first is

1. Gregor Mendel      2. Charlwoof      3. Mendeleev      4. Carolus lineaeus

04. Answer with correct written form of binomial nomenclature of species of mango tree is,

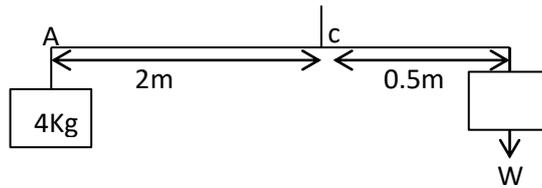
1. MANGIFERA INDICA      2. Mangifera Indica  
3. mangifera Indica      4. *Mangifera indica*

05. Which of the following the unit used to determine force,

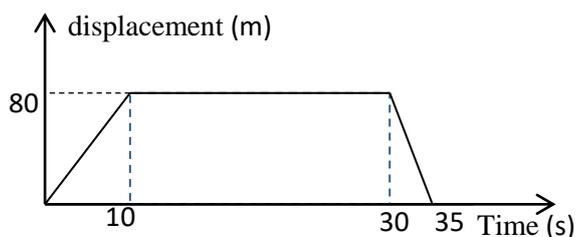
1.  $\text{kgms}^{-2}$       2. Nm      3.  $\text{kgms}^{-1}$       4.  $\text{Js}^{-1}$

06. According to the picture a light rod is hanged at the point C for equilibrium, Value of W is

1. 40N  
2. 80N  
3. 160N  
4. 200N



07. What is the resultant force when 40N force horizontally applied on the object having mass 8kg. that placed on the surface which has the ( frictional co-efficient as 0.2)
1. 8N
  2. 16N
  3. 24N
  4. 40N
08. Ray that used to test the reality of the currency notes is
1. UV rays
  2. X-rays
  3. IR- rays
  4.  $\gamma$ - rays
09. Nucleons are meant,
1. Electron,proton
  2. Proton,Neutron
  3. Electron.Neutron
  4. Electron,proton, Neutron
10. Indicating the correct number of protons and electrons found in the aluminum ion,
1. 13,27
  2. 13,13
  3. 13,10
  4. 10,13
11. The method for separating of essential oils,
1. Vaporisation
  2. Steam distillation
  3. Simple distillation
  4. Fractional distillation
12. The m/V fraction of 40g of glucose in 800ml solution
1.  $20\text{gdm}^{-3}$
  2.  $50\text{gdm}^{-3}$
  3.  $200\text{gdm}^{-3}$
  4.  $400\text{gdm}^{-3}$
13. Which organic molecule produces large amount of energy that undergone within cellular respiration
1. Lipid
  2. Glucose
  3. Protein
  4. Starch
14. A muscle tissue in which anaerobic respiration can occur,
1. Cardiac muscle tissue
  2. Skeletal muscle
  3. Smooth muscle tissue
  4. Tricep muscle tissue
15. Time in which Suman as rest is,
1. 10s
  2. 20s
  3. 30s
  4. 35s



16. Velocity of Suman Who reaches 80m as displacement is
1.  $8\text{ms}^{-1}$
  2.  $10\text{ms}^{-1}$
  3.  $80\text{ms}^{-1}$
  4.  $800\text{ms}^{-1}$
17. Number of molecules of urea found in 120g of urea (C=12, N=14, O=16, H-1 )
1.  $6.022 \times 10^{23}$
  2.  $6.022 \times 10^{23} \times 4$
  3.  $6.022 \times 10^{23} \times 2$
  4.  $1/120 \times 6.022 \times 10^{23}$
18. If the chemical formula of the element X with carbonate radical is  $\text{XCO}_3$ , then the formula of the compound formula with X with phosphate
1.  $\text{XPO}_4$
  2.  $\text{X}_2\text{PO}_4$
  3.  $\text{X}_3(\text{PO}_4)_2$
  4.  $\text{X}(\text{PO}_4)_2$

19. The correct one of the statements related to Aves, is

A- Heart with completely divided as four chambered, is found.

B- Beaks of them are formed with bone of skull.

C- Air spaces are found in the bones.

1. A and B

2. B and C

3. A and C

4. A,B and C

20. The correct one of that related to hormones is

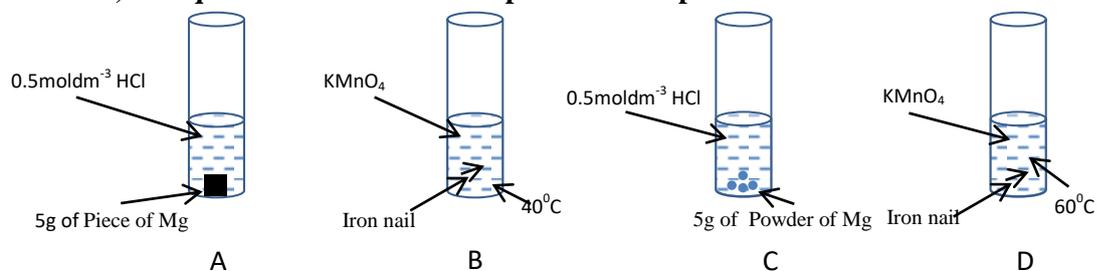
1. All of the hormones are composed with proteins

2. Hormones act in which location that secreted

3. Hormones are circulated not only through blood but also another method

4. Hormones can act with in low concentration

**Answer 21<sup>st</sup> , 22<sup>nd</sup> questions based on the experiment setup shown below**



21. An experimental setup that shows that amount of contact surface influences on rate of chemical reaction, is

1. A and B

2. B and C

3. B and D

4. A and C

22. Experimental setup B and D are used to test which factor that determine rate of reaction.

1. Concentration of the reactants

2. Temperature

3. Contact area

4. Catalyst

23. Organ which purify blood in human body, with removing gaseous wastage,

1. Heart

2. Lungs

3. Kidney

4. Liver

24. Blood vessel which contains high nourished blood is

1. Hepatic portal vein

2. Artery to the small intestine

3. Aorta

4. Pulmonary veins

25. Energy stored in the object with highest height, that projected upward with 80ms<sup>-1</sup> having mass 4kg, is

1. 320J

2. 6400J

3. 12800J

4. 24600J

26. 57°C in Kelvin scale is

1. 300K

2. 330K

3. 370K

4. 570K

27. Number of lone pair of electrons that does not involve in bond , found in  $\text{NH}_3$  molecule is.

1. One                      2. Two                      3. Three                      4. Four

28. Organ in which exchange of gases occurs in the respiratory system, is

1. Bronchi                      2. Nasal cavity                      3. Alveoli                      4. Trachea

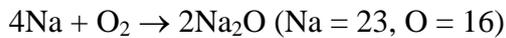
29. Inherited occurrence of a generation formed with heterogeous plant with short plant is

1. TT,tt                      2. Tt,tt                      3. Tt,TT                      4. Tt,Tt

30. Which of the following chemical reactions, magnesium does not involve is

1.  $\text{Mg} + \text{cold H}_2\text{O} \rightarrow \text{Mg(OH)}_2 + \text{H}_2\uparrow$   
2.  $\text{Mg} + \text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2\uparrow$   
3.  $\text{Mg} + \text{CuSO}_4 \rightarrow \text{Mg SO}_4 + \text{Cu}\downarrow$   
4.  $\text{Mg} + \text{H}_2\text{O} \rightarrow \text{MgO} + \text{H}_2\uparrow$

31. How much of Na is necessary to form 62g of  $\text{Na}_2\text{O}$  according to the given reaction

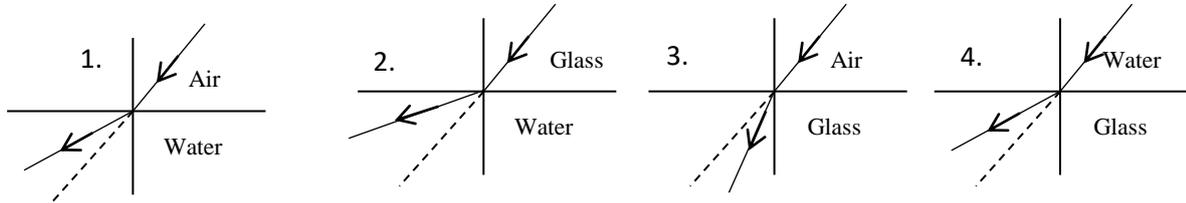


1. 23g                      2. 46g                      3. 69g                      4. 92g

32. Organism with prokaryote cell structure is

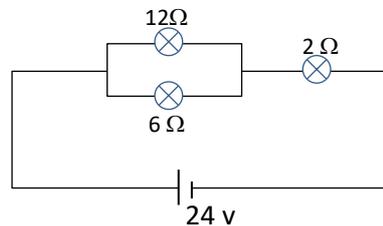
1. Fungus                      2. Algae                      3. Bacteria                      4. Aves

33. Correct indication of path of ray of light that travels from denser medium to rare medium is



34. Current flowing in the given electric circuit is

1. 2A  
2. 4A  
3. 12A  
4. 24A



35. Which of the following is chemical combination reaction

1.  $\text{H}_2\text{O}_2 \rightarrow \text{H}_2\text{O} + \text{O}_2$   
2.  $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$   
3.  $\text{Mg} + \text{AgNO}_3 \rightarrow \text{Mg(NO}_3)_2 + \text{Ag}$   
4.  $\text{S} + \text{O}_2 \rightarrow \text{SO}_2$

36. Which of the following are correct that related with epithelial tissues

- A. There is direct blood circulation to the cell of these tissues
- B- There tissues give protection
- C- Exchange of material occurs through these tissue
- D- Oxygen and nutrients are supplied from basement membrane with diffusion.

1. A,B and C            2. A,C and D            3. A,B and D            4. B,C and D

37. Substance that use to coagulate with rubber latex

1. NaOH                    2. CH<sub>3</sub>COOH            3. HCl                    4. KMnO<sub>4</sub>

38. On which factor frictional force does not depend, is

- 1. Weight of the object
- 2. Nature of surface
- 3. Amount of contact surface
- 4. Mass of the object

39. Part in which ADH hormone acts, is

- 1. Glomerulus
- 2. Loop of Henle
- 3. Proximal convoluted tubules
- 4. Distal convoluted tubules

40. Which of the following factors that closely related for the huge lost of human lives and economical progress of the most of the countries due to Covid-19 as an infectious disease with threat greatly

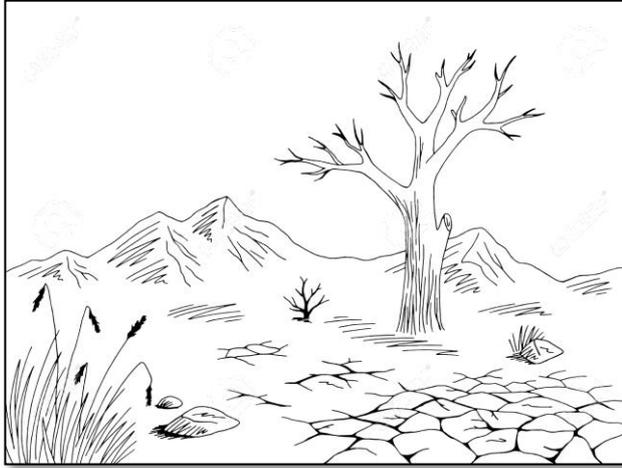
- 1. There is no awareness of infection of disease among the people
- 2. Negligence of this infection disease among the people
- 3. This is as a biological weapon used with powerful countries
- 4. There is no invention of medicine that controls Covid-19

\

Part II

Answer all of the following questions.

01. Drought is the severe nature disaster that faced with worldwide countries. At the first step of this people move here and there with water cans



A.

i. Which is the origin of the source of energy that can give energy for all of the following things in the world?

.....  
ii. Which group of organism use the above source of energy as maximum? For which process it is used?

.....  
iii. Which biological process is same as combustion that occurs in the factories?

.....  
iv. In which of the organelle the biological process mentioned in question No-03 occurs?

B.

i. Give the example for each of the renewable and non-renewable source of energy that can be used in the factories.

.....  
ii. Give two eco- friendly advantages when renewable source of energy are used.

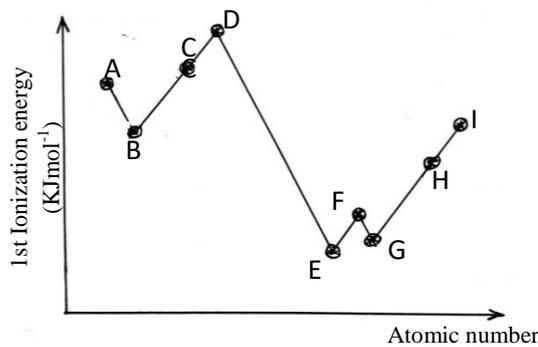
.....

iii. Give two advantages when non-renewable source of energy are used.

.....  
iv. How are the organism that decompose of the organic bodies found in the environment, called? Give two groups of organisms for it/

.....  
v. Give two disasters which occur with reason of forming acid rain.

.....  
02. The elements are in the graph of ionization energy given below belong to the 2<sup>nd</sup> and 3<sup>rd</sup> period . Although the symbols given here are not actual symbols of the element and answer with basis of them.



A.

1. If the element C has the highest electro negativity in the second period then give the ionic state formed with C

.....  
ii. If the element I is stored in water in the laboratory then which is the element has the lowest first ionization energy?

.....  
iii. Give the chemical reaction occur between F and C?

.....  
iv. Which is the element has low reactivity?

.....  
v. Which is the element that has high electro positive property?

B.

A group of students tried to prepare a solution of  $\text{NaHCO}_3$  500ml with concentration as  $4\text{mol dm}^{-3}$

i. Give six laboratory instruments that needed to make the above solution.

.....  
ii. What is mass of solute needed for making the solution of  $\text{NaHCO}_3$  with particular concentration?

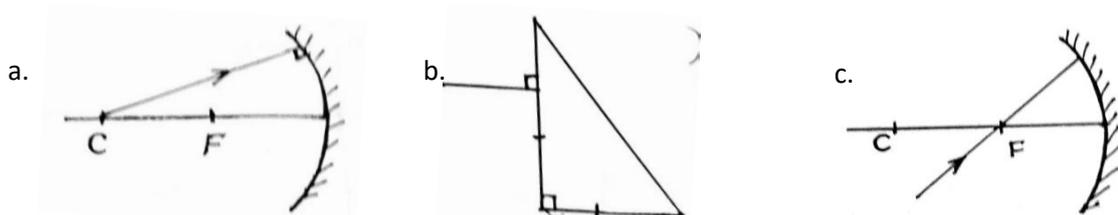
.....  
iii. What is meant by solubility?

.....  
iv. What are the factors which determine the solubility?

.....  
v. What are the facts should be included in the label fixed on the solution prepared.

03.

A. 1. Draw the path of rays of light of the following



2. If the image of the object having height 5cm that placed at distance as 45cm before a concave mirror having radius of curvature as 60cm, is obtained as magnification 2.5 then,

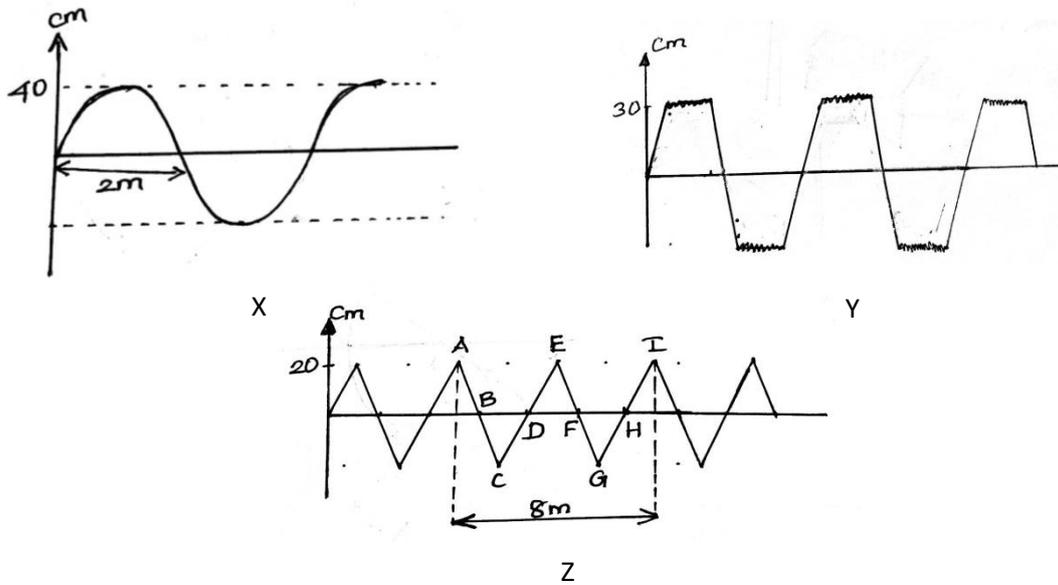
a. What is the focal length of the concave mirror?

.....  
b. Draw the light ray diagrams for the properties of the image.

.....  
c. Give the properties of the image.

.....  
d. What is the height of the image.

B.



Shape of the waves obtained with playing of three different musical instruments are, shown above.

i. Which is the instrument has the highest frequency?

.....

ii. Which of the instrument has the highest loudness?

.....

iii. Which of the instrument has the lowest amplitude?

.....

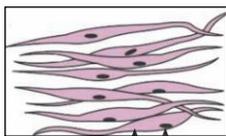
iv. Which phase is same as of the instrument Z and Y.

.....

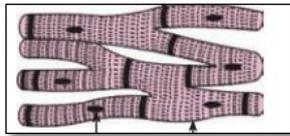
v. What is the wavelength of the waves of the instrument X and Z

.....

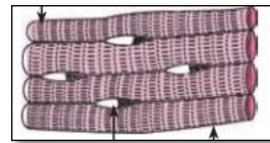
04.A.



A



B



C

1. Identify the muscle tissue as A,B and C?

.....

2. Which of the tissue shows rhythmic movement.?

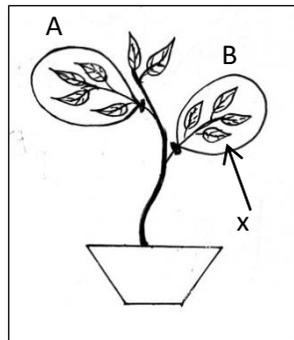
.....

3. Give two body parts in which the muscle tissue A is found?

.....  
4. Which muscle tissue has high number of mitochondria

.....  
5. Give 2 differences between the muscle tissues B and C.

.....  
B. An experimental setup formed by the students to know the essential factors for photosynthesis, is shown below



1. What are the essential factors for photosynthesis?

.....  
2. For which factor is shown as essential for photosynthesis as the above setup arranged.

.....  
3. Which laboratory chemical can be used as X.

.....  
4. State the step involved in the starch test and explain them.

.....  
.....  
.....  
.....  
.....  
.....

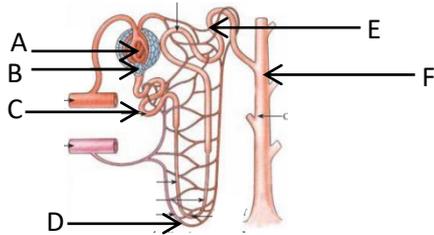
## Part - B

### Answer all of the questions

05. A. Building of organism is towards from a simple structure as cell to the complex structure as organisms

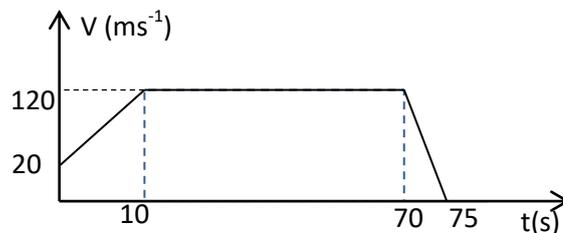
- Give the organizational level if a body of organism from simple to complex
- Write down the components of blood circulatory system ?
- Which is the blood vessel that supply blood to the muscle of heart?
- How is Lub-Dub sound produced with heart?

B. Give the answers based on the structure shown below



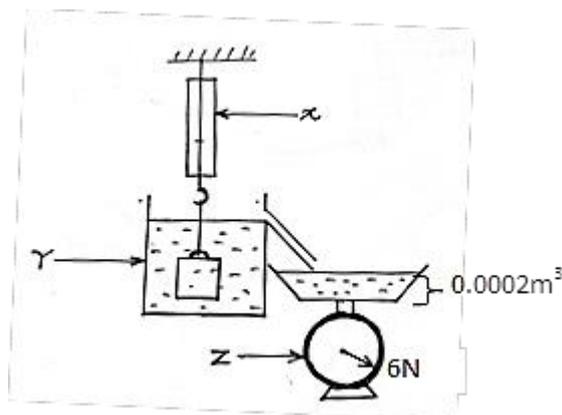
- Name the parts A, B, C, D, E and F?
- Which type of epithelial tissue found in B?
- What are the constituents that not filtered in A?
- What is the basic functional unit of kidney?
- In which of the part glucose reabsorbed?

06.A. 1. A velocity-time graph for linear motion of an object having 4kg, is given. Answer the following based on it.



- What is the momentum of the object on  $70^{\text{th}}$  second?
- What is your comments about the motion of the object within first 10 seconds?
- What is the force exerted with motion of the object within first 10s?
- What is acceleration of the object?
- What is the velocity of the object on  $75^{\text{th}}$  second?
- What is the kinetic energy of the object on  $53^{\text{rd}}$  second?

B. According to the setup an object having mass as 10kg was subjected to the students



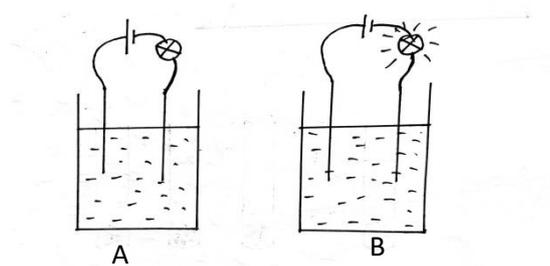
- i.. What is volume of the object?
- ii. What is the reason for occurring lost of weight ?
- iii. What is the actual weight of the object?
- iv. What is up thrust?
- v. What is the apparent weight?
- vi. Identify Y and Z?

07. A. i. Draw the Lewis structure of the following structures

- i.  $\text{PCl}_3$
- iii.  $\text{CO}_2$

- ii.  $\text{H}_2\text{O}$
- iv.  $\text{HCl}$

ii. A setup arranged by the students to know the difference between ionic and covalent compounds, is shown below

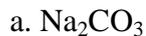


- a. Which of the set up having the solution of covalent compound among the above setup A and B
- b. Give two differences between ionic and covalent compounds.

B.

i. Find the relative molecular mass of the following compounds.

(C=12 , H=1, N=14, S=32, Cl=35.5, Na=23, Mg=24, K=39, Ca=40 )



ii. Give the answers of the following questions related with mass of glucose as 720g

a. Calculate the amount of moles of glucose found.

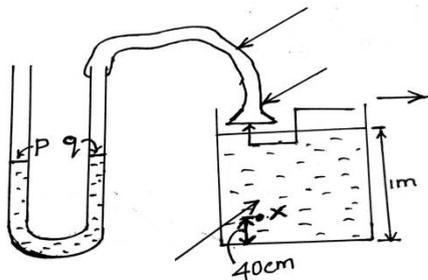
b. Calculate the number of atoms of oxygen found

c. How many of the molecules of glucose are found

iii. Give two chemical reaction occur for metal of sodium that exposed to air.

iv. . Give two uses of sodium.

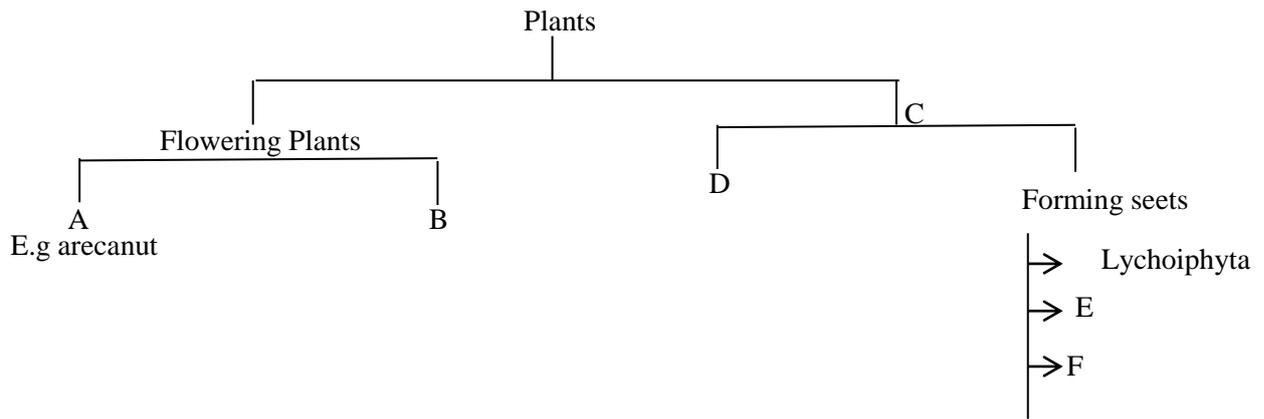
08. A.



Answer the followings as related with the above setup.

- What is your comments on the height of the levels p and q when the rubber membrane just touches the surface of water? Give reason
- What is the pressure exerted on the water level q when the funnel is placed at the point X.
- What is your comments on the level p and q when the funnel made up with thick aluminum foil instead of rubber membrane, placed at the point X. Give reason.
- What is the density of the liquid in the U tube if the level p rises up with 0.5m when the funnel with rubber membrane, placed at the point X.

B.



1. Identify the terms with A,B,C and D.
2. Give an example for organism in the group D.
3. What is the alphabet that indicates the first plant originated for terrestrial life
4. What do you mean with fertilization on the plants.
5. Give two changes occur in the ovary after fertilization

09. A. Heat energy as 240000J was given to a metal sphere having specific heat capacity as  $1200\text{Jkg}^{-1}\text{C}^{-1}$  to increase the temperature with  $50^{\circ}\text{C}$  when this metal sphere was put into liquid having mass 4kg and specific heat capacity  $1000\text{J}^{-1}\text{kg}^{-1}\text{C}^{-1}$ , it absorbs all amount of heat energy and changes its temperature as  $90^{\circ}\text{C}$
- i. What is the mass of the metal sphere
  - ii. In which method of transmission of heat transfers from metal sphere to water?
  - iii. What is the initial temperature of liquid?
  - iv. For which type of method of transmission of heat, medium is not essential?
  - v. What is sea breeze? With which type of transmission of heat is it formed?

B. Common salt is prepared from sea water in Sri Lanka

1. Which main separation method is used for this purpose?
2. Simply explain the steps involved in this preparation of common salt.
3. Give the method and the reason for selection of proper separation method of components in the following mixture.
  - a. Air
  - b. Coloring of a food item.