

Second Term Test - 2023

Grade 11

Science

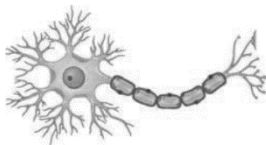
Paper II

3 Hours

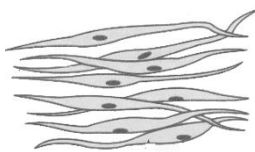
Name :

- ## Part A

A



B



C



- | Name of tissue | Location | Function |
|----------------|-----------------|--------------------------------------|
| (a) | All over body | (e) |
| (b) | Wall of bladder | contraction and relaxation of muscle |
| (c) | (d) | Lining up of free surface |

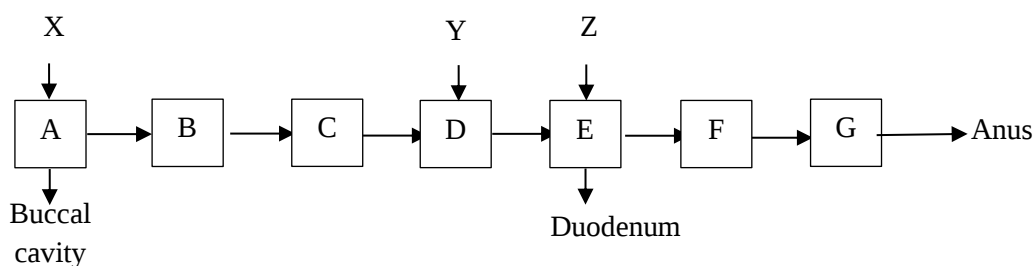
(5 marks)

- (ii) Write a difference between tissue A and blood tissue in human

(1 mark)

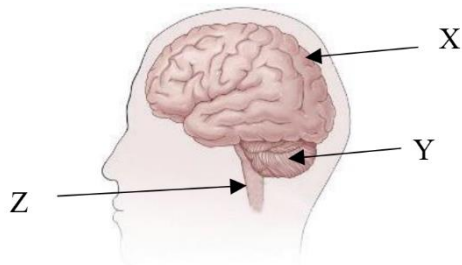
- (iii) What is the type of tissue given above that presence of intercalated disc? **(1 mark)**

B) The digestive system is the main system which involve in nutrition of human. The organs in the system given below.



- (i) Name the gland X which do secretion to A? **(1 mark)**
.....
- (ii) State the special organ which prevents entering food blous to trachea at B? **(1 mark)**
.....
- (iii) How the food blous passes through C? **(1 mark)**
.....
- (iv) D is the place which store food temporary and doing digestion. Name the secretion given by y? **(1 mark)**
.....
- (v) Emulsification is done by the secretion of Z, Which added to E. Name the gland which produces Z? **(1 mark)**
.....
- (vi) State two structural adaptations of F for absorption? **(2 marks)**
.....
- (vii) Name a component absorb at G? **(1 mark)**
.....

02. The diagram shows the structure of the human brain.

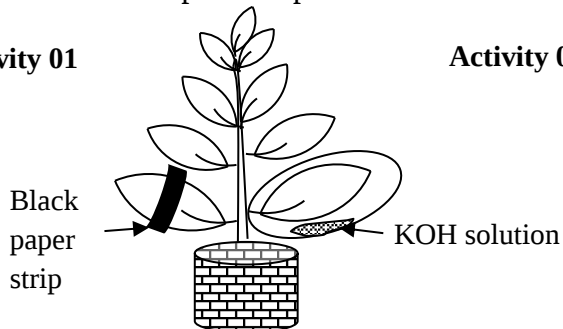


- (i) Name X, Y and Z? **(3 marks)**
.....
- (ii) What is the function carried out by Y? **(1 mark)**
.....
- (iii) What is the structural unit in the nervous system? **(1 mark)**
.....
- (iv) Defines the words given below.
- a) Stimuli **(1 mark)**
- b) effector **(1 mark)**
- (v) Mention a feature of hormones which carried out chemical co- ordination. **(1 mark)**
.....

B) A set up arranged by a student to study a factor essential for process of photosynthesis is shown in the diagram. This set up was kept in the dark for 48 hours.

Activity 01

Activity 02



- (i) Which are the factors that supposed to be identified from,
 - (1) Activity (1 mark)
 - (2) Activity (1 mark)
- (ii) What is the observation can be seen in leaf Q by starch test? (2 marks)

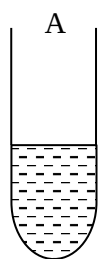
.....
- (iii) What is the reason for boiling leaves in an alcohol solution? (1 mark)

.....
- (iv) Which products of photosynthesis is transported through the phloem tissue? (1 mark)

.....
- (v) Write a global importance of photosynthesis? (1 mark)

.....

03. A) Following are two mixtures used in day to day life.



water + sugar



water + flour

- (i) Propose names for mixtures A and B.

A B (2 marks)
- (ii) Which can be name as a solution? (1 mark)

.....
- (iii) Write the solute and the solvent in this mixture respectively?

The solute
The solvent (1 mark)

- (iv) Write a factor that affects the solubility? **(1 mark)**

.....

B) NaCl is product produced by the reaction of strong acid strong base B.

- (i) State the chemical formular of A and B. **(2 marks)**

.....

- (ii) Which is the other product produced in the reaction. **(1 mark)**

.....

C) The table below shows the placement of some elements of the periodic table. They are not standard symbols. Answer the questions given below based on the symbols given in the table.

	P		Q			R	
S							T
	U						

- (i) Name the element with 2, 8, 8, 2 electronic configuration? **(1 mark)**

.....

- (ii) Which two elements can be form a more polar compound? **(1 mark)**

.....

- (iii) Write down the formulae of compound formed between S and R? **(1 mark)**

.....

- (iv) State the type of bond form between P and R? **(1 mark)**

.....

- (v) Write down the symbol of monoatomic gas? **(1 mark)**

.....

- (vi) Draw the Lewis structure of the compound formed between element Q and Oxygen?

.....

.....

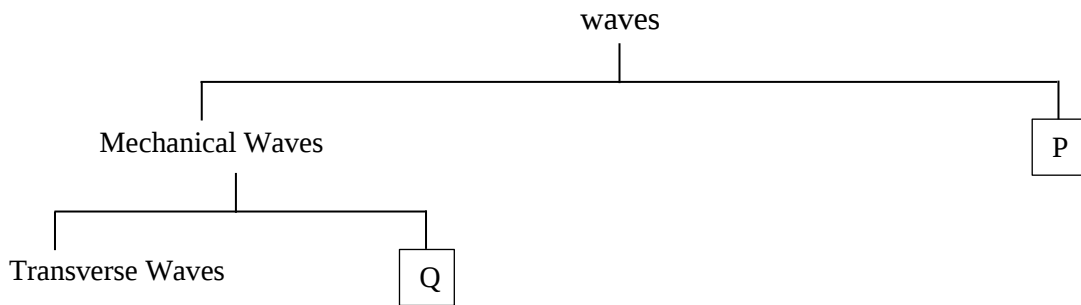
(2 marks)

- (vii) Write down the electronic configuration of S^+ ion? **(1 mark)**

.....

- (viii) Name elements which form atomic lattice? **(1 mark)**

04. A) The classification of waves is shown in the following chart.



(i) Name P and Q. (2 marks)

.....

(ii) State two features of waves P? (2 marks)

.....

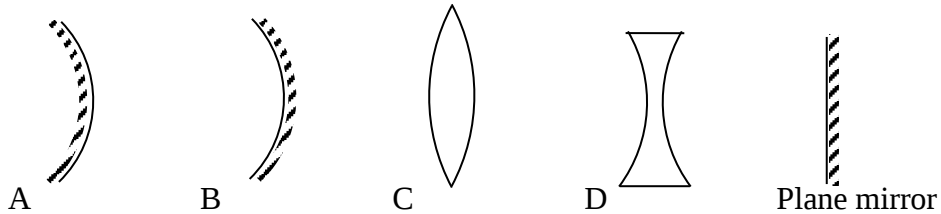
(iii) In which waves the compression and refractions are occurs? (1 mark)

.....

(iv) What is the reason for categorizing waves as P and mechanical waves? (1 mark)

.....

B) Following are few diagrams of optical devices.



(i) Name A,B,C and D. (2 marks)

.....

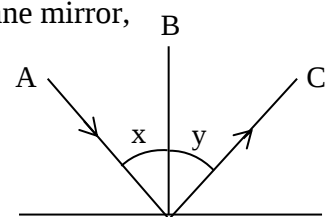
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(ii) Following diagram shows the reflection of light through a plane mirror,

Name X and Y angles,

X -

Y -



(2 marks)

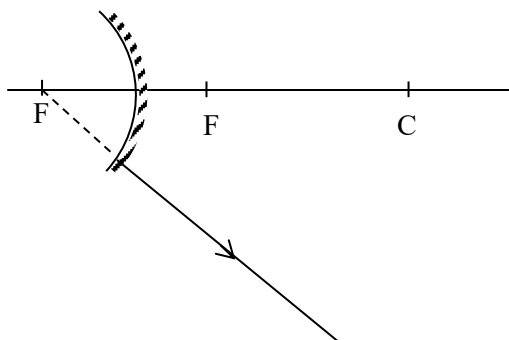
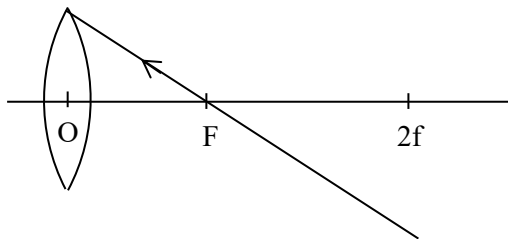
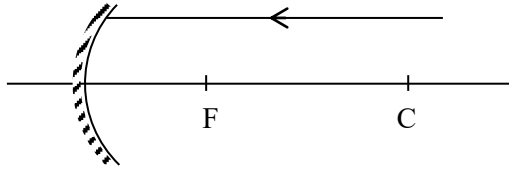
(iii) Which of optical devices given above can be used in following instances.

a) Driver can be see the road behind him.

(1 mark)

b) Dentists use to observe enlarged images of teeth. **(1 mark)**

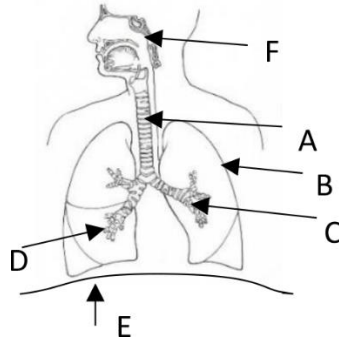
(iv) Complete the ray diagrams given below. **(3 marks)**



Part B

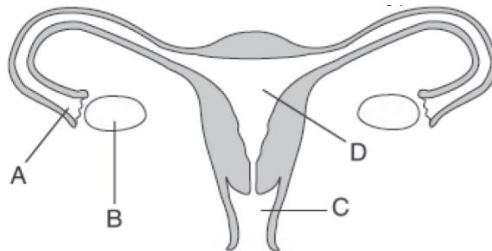
- Answer only three questions No. 5 , 6 , 7 , 8 and 9.

05. A) Figure presents a sketchy line diagram which shows the respiratory system of human.



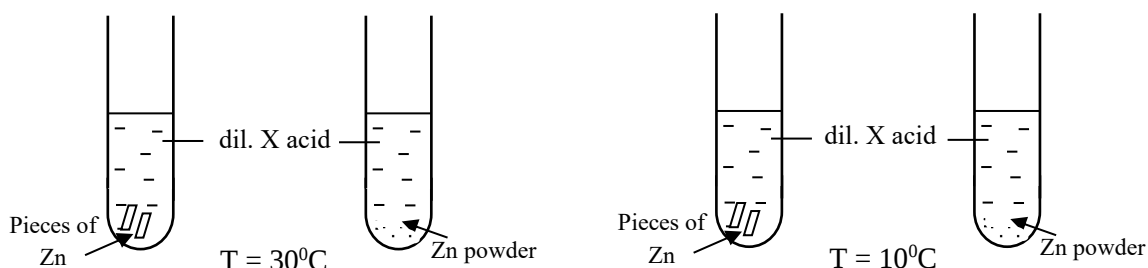
- Name the parts labelled A to F. **(3 marks)**
- Write the importance of cartilaginous rings in A? **(1 mark)**
- Write down two adaptations can be seen in the structure D for efficient gas exchange? **(2 marks)**
- Write two changes occurs in inhale air inside the nasal cavity? **(2 marks)**
- Write the muscle that support for changing the volume of thoracic cavity other than E? **(1 mark)**

B) Diagram of female reproductive system is given below.



- Name A,B,C,D. **(2 marks)**
- Name the place where fertilization of ova occurs. **(1 mark)**
- Write a major change that can be occur in female reproductive system in low concentration of oestrogen and progesterone level in blood? **(1 mark)**
- What are the 2 places where the series of events in the menstrual cycle take place? **(2 marks)**
- What is the structure that exchange substance between blood vessels of pregnant mother and blood vessels in developing embryo? **(1 mark)**
- What is the type of cell division occur when transferring chromosomes from parents to child?
- Where FSH is secrete in female reproductive system.
- Write 2 main characteristics of hormones.

06. A)



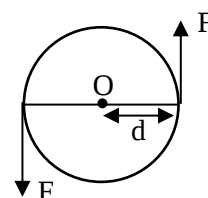
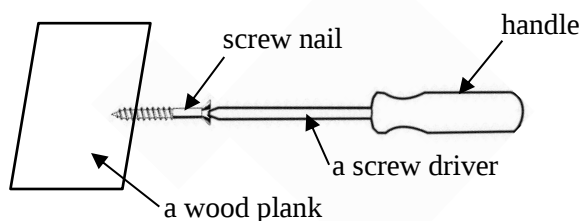
You are given four different instances to identify factors affect on rate of reaction. For that different conditions were supplied.

- (i) Which factors affect on rate of reaction are investigated from the activity? **(2 marks)**
- (ii) a) If H_2 gas is produced from the reaction between X acid and Zn. Name suitable dilute acid for X? **(1 mark)**
 b) Write a balanced chemical equation for the reaction. **(2 marks)**
- (iii) Mention the observation you gain to identify the set up with high rate of reaction from A and B? **(2 marks)**
- (iv) Which shows high rate of reaction from A and C. Mention the reason? **(2 marks)**
- (v) How do you identify H_2 gas at the laboratory? **(1 mark)**

B) A saturated solution was prepared by dissolving 370g of glucose in 200cm^3 of water. (Density of water = 1gcm^{-3})

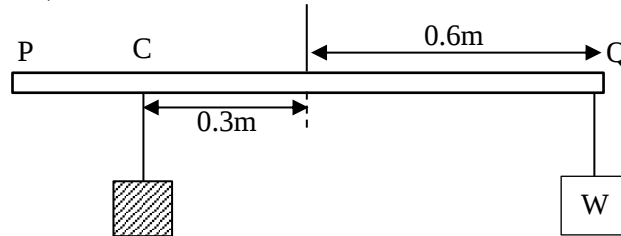
- (i) What is the saturated solution? **(2 marks)**
- (ii) Write an another method of preparing a glucose solution without mixing the given solvent to the solute? **(1 mark)**
- (iii) a) Finds the solubility of the above solution? **(1 mark)**
 b) Calculate the mass of glucose in the solution prepared above? **(2 marks)**
- (iv) What is the mass of the NaOH contain in 500cm^3 of 0.25mol dm^{-3} NaOH solution. **(2 marks)**
- (v) Limestones is a chemical compound contains calcium carbonate.
 a) Write it's chemical formulae? **(1 mark)**
 b) Find the relative molecular mass of calcium carbonate? **(1 mark)**
 (Ca = 40 , C = 12 , O = 16)

07. A) Following diagrams shows unscrewing and tightening a nail with a screw driver using couple of forces.

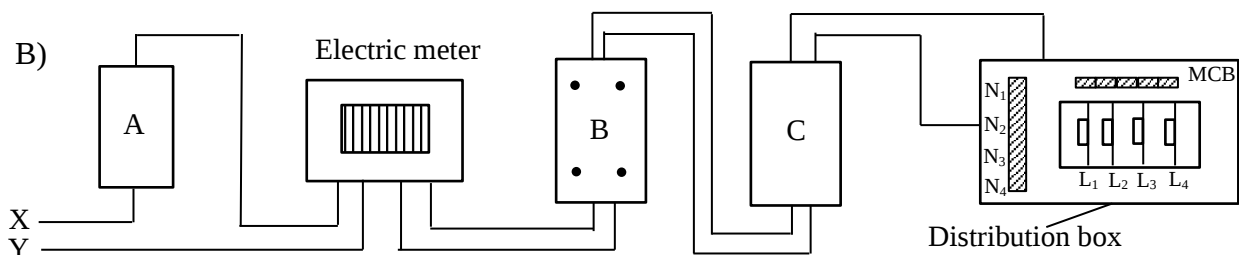
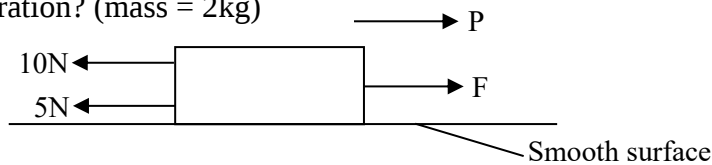


- (i) Write an another application of couple of forces without this instances? **(2 marks)**
- (ii) Write 2 features of couple of forces? **(2 marks)**
- (iii) Write an expression to finds the moment of couple of forces? **(2 marks)**

- (iv) It is easy to unscrewing or tightening a nail when increase the thickness of handle of the screw driver. Explain in brief? **(2 marks)**
- (v) A smooth, light rod is balanced from the center. When weight W is suspended at Q , what is the weight should be suspended from the point C to balance the rod? ($W = 20\text{N}$) **(2 marks)**



- (vi) What is the force F should be apply on the object to the direction P to give 4ms^{-2} acceleration? (mass = 2kg) **(2 marks)**



- a) Name the parts of A,B,C in a domestic electric circuit? **(3 marks)**
- b) Which part is relative with amount of units that consume? **(3 marks)**
- c) Name L and N wires? write there colours seprately? **(2 marks)**

08. A) Growth is a living characteristics of organism. Growth can be occur in two ways. They are increase in number of cells and increase the size of the cell.

- (i) Write two types of cell division? **(2 marks)**
- (ii) Write a difference of above two types of cell division. **(1 mark)**
- (iii) Write an example of each above cell division can be occurs? **(2 marks)**

B) From the living features belongs to organisms some are transmitted from generation to generation. They are called inherited features.

- (i) Mention a common inherited characteristics in human population. **(1 mark)**
- (ii) Draw a punnet square to show the genotype of f_1 generation when purely breeding of tall plants (TT) and purely bred short plants (tt) is crossed.

C) Heat is type of Energy. There are 3 types of transmitting heat from on place to another.

- (i) Write 3 types of heat transferring? **(3 marks)**
- (ii) What is the type of heat transferring through metal rod? **(1 mark)**

- (iii) 500g of water in 27°C is put into the vessel. No any loss of heat from this vessel. Water is heated up to 75°C by immersion heater. What is the amount of heat absorbed by water? (Specific heat capacity of water $4200\text{Jkg}^{-1}\text{K}^{-1}$) **(3 marks)**
- (iv) The immersion heater is connected to 230V voltage supply and 4A current flows. Find it's efficiency? **(3 marks)**
- (v) Why cricketers , students are dressing white during day time? **(2 marks)**

09. A) Following are the steps of produwny salt in saltern in Sri Lanka.



- (i) How do you name this process? **(1 marks)**
 - (ii) Write 2 factors shruld be taken into consideration when setting up a saltern. **(2 marks)**
 - (iii) Write 2 salts deposited at shallow tanks and medium tanks. **(2 marks)**
 - (iv) Write a reason to bitter taste of salt. **(1 mark)**
- B) A Player thrown a ball up and caught again. The mass of the ball is 100g and its velocity is 20 ms^{-1} when it releae from the hand.
- (i) What is the mass of the ball? **(2 marks)**
 - (ii) Find the maximum helght it moves up? **(2 marks)**
 - (iii) Find the moment of the ball when it is catching? **(2 marks)**
- C) A Child is pulling a cart on horizontal floor. Mass of the cart is 400 kg. If the child apply 2000 N force it does not move when the force increases it is moved.
- (i) When the cart is at rest which forces act vertically? **(2 marks)**
 - (ii) When 2000N force act on the cart which type of friction force act on its wheels? **(1 mark)**
 - (iii) When the cart is moving with 2 ms^{-2} acceleration, calculate the unbalanced force act on the cart? **(2 marks)**
 - (iv) What is the factor does not affect on frictional force ? **(1 mark)**
 - (v) Write an instance where of reducing friction and increasing friction in day to day life? **(2 marks)**



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