



Sri Sumangala College
Panadura

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Sri Sumangala College - Panadura

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ප්‍රථම වාර පරීක්ෂණය - 2020 මාර්තු
1st Term Test - March 2020

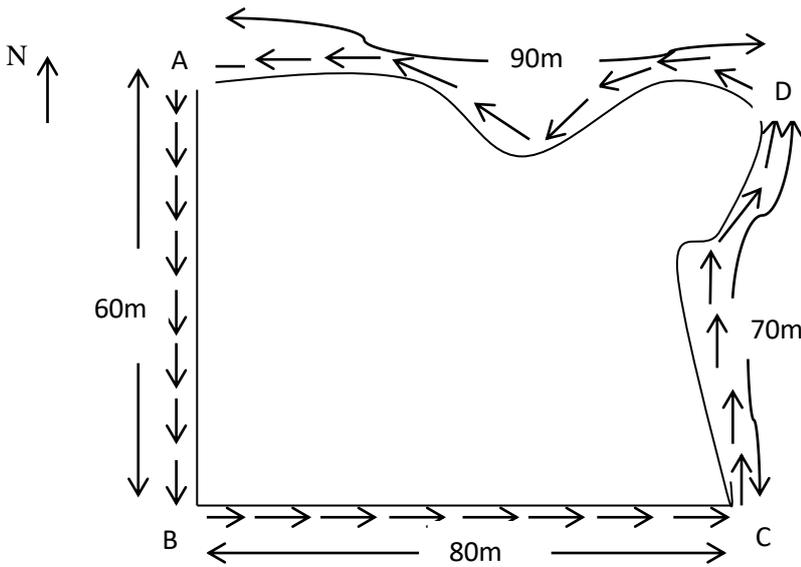
ශ්‍රේණිය } 10 Grade }	විෂයය } Science Subject }	පත්‍රය } II Paper }	කාලය } 03 hour Time }
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නම :- පෙනීය :-

- Answer all the questions in part A
- Answer three questions only part B

Part A

1) A) The diagram given below shows a bank around a lake.



A man started walking from A and moved along the directions shown by the arrow heads with a uniform speed.

I) If the man completed one round around the lake, what is the total distance covered by the man?

.....(01)

(II) Find out the average speed of the above motion if it took 5 minutes.

.....
.....

.....(02)

(III) If the man stopped for a while at C Find the displacement of the man.

.....
.....
.....(01)

(IV) Write a method to increase the speed of the motion of the man.

.....
.....(01)

B) It was observed that there are Alocasia (Gahala) bushes grown at several places on the bank of the lake.

(I) Which carbohydrate contains more in Alocasia (Gahala)?

.....(01)

(II) Write the common formula for carbohydrates.

.....(01)

(III) A boiled piece of Alocasia is well crushed and heated in a mortar. Then what will be the observation?

.....
.....
.....(02)

(IV) What is the simplest group of carbohydrates?

..... (01)

C) (I) Name another two laboratory equipment's required for the combustion of substances inside a mortar.

.....(02)

(II) All the carbohydrates contain carbon (C). What is the product given by the complete combustion of carbon with O_2

.....(02)

(III) Write the electronic configuration of natural carbon atom?

.....(01)

(IV) Write the allotropic form of carbon that conducts the electricity.

.....(01)

2) a) A student of grade 10 took a diet including the following food types.



I) Name two organic substances containing in the diet except proteins.

.....(02)

(II) Select the foods from the diet that contain above organic substances in abundance.

..... (01)

(III) Name the disaccharide contained in sugar?

.....(01)

(IV) Name the mineral contained in curd which contributes to absorb vitamin "B"

.....(01)

(V) Which food consists vitamin "K" in a abundance.

.....(01)

B) I) What is the observation that could be received when biuret reagent is added to an extraction with proteins

.....(01)

(II) Which food can be identified by using benedict solution? (Before adding benedict solution the food sample is deoxidized by using H_2SO_4)

.....(01)

(III) Which color is obtained when a small amount of curd fat is well mixed and shaken with Sudan III?

.....(01)

C) (I) Write two organelles that can be found only in animal cells.

.....(02)

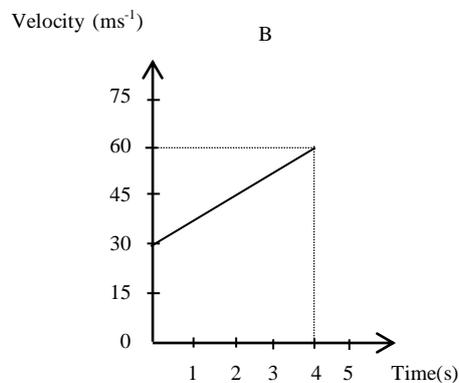
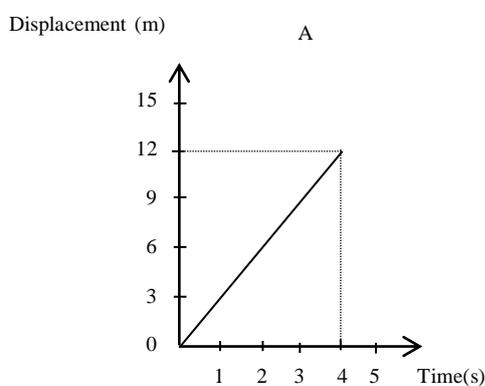
(II) Name two method of cell division.

.....(02)

(II) Which carbohydrate involves to make the outer layer of plant cells?

.....(01)

3) a) A displacement time curve and a velocity time curve of A and B objects are shown below.



I) What is the maximum displacement of A?

.....(01)

(II) Calculate the uniform velocity of object A?

.....
.....(02)

(III) Explain the motion of object A

.....
.....(02)

B) (I) What is the maximum velocity of B?

.....
.....(01)

(II) Calculate the acceleration of B using the graph.

.....
.....(02)

(III) The mass of object B is 500Kg calculate the unbalanced force exerted on the object within the first four seconds.

.....
.....
.....(02)

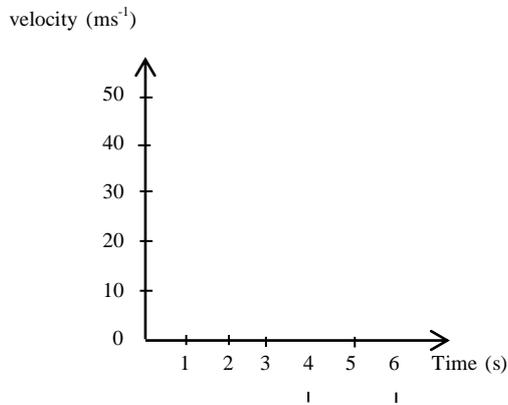
(IV) Find out the momentum of B when B is moving its maximum velocity?
.....
.....(02)

C) (I) Classify the following quantities as vector quantities and scalar quantities.

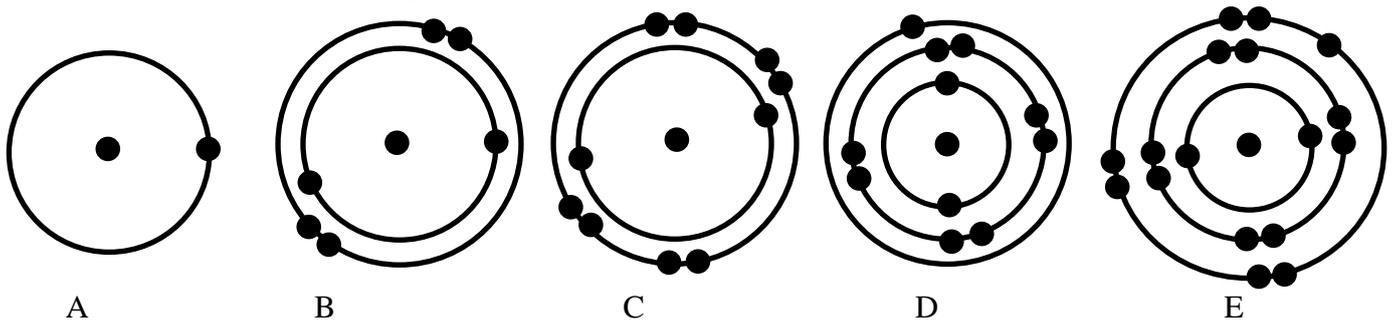
(Distance, Time, displacement, velocity)

.....
.....(02)

(II) Draw the velocity time graph to depict the maximum upward motion of an object with an initial velocity of 300ms^{-1} under the acceleration of gravity?



4) A) The atomic structures of 05 elements out of the first 20 elements of the periodic table are given below. Answer the questions using the given symbols only.



I) Who presented the nucleus model of atomic structure?
.....(01)

(II) Select the pair of elements belong to the third period of periodic table.
.....(01)

(III) What is the letter that represents the element with an allotropic form of conducting electricity?
.....(01)

(IV) Write a physical property of D?
.....(01)

(V) Write two elements that are in same group.
.....(02)

(VI) Which element does not make chemical bonds?
.....(01)

B) (I) Explain the term 'Isotopes'
.....
.....(02)

(II) b_aX is an element. Which letter out of a and b is used to write the electronic configuration of elements.
.....(01)

(III) $A_{(g)} \rightarrow A^+_{(g)} + e$ Which chemical property of an element is indicated by the above equation?
.....(01)

C) (I) What is the period and the group of periodic table to which magnesium metal belongs to?
Period
Group.....(02)

(II) What can observe when a magnesium strip is burnt?
.....(01)

(III) What is the valency of polyatomic phosphate ion?
.....(01)

Part B

5) A) I) The nutritional deficiencies of plants given below could be identified among the crops in a cultivation

Select the relevant mineral for the nutritional deficiencies mentioned below.

(Iron, Calcium, Potassium, Zinc)

1. Tips of the plant leaves die
2. Thickening of plant leaves abnormally
3. Appearing red and purple colored spots on the leaves.
4. Decreasing the content of chlorophyll in plant leaves

(04)

II) Name two plant varieties with vitamin B in abundance. (02)

B) Water is an inorganic element which cover $\frac{2}{3}$ of the body weight of organisms.

I) Write 02 specific properties of water (02)

II) The density of ice is lower than the density of water. Explain how the effects on the survival of aquatic animals in water (02)

III) A sample of a certain food is burnt in a mortar and a glass sheet is held over the mortar while the combustion is occurring. Which substance can be used to identify whether the droplets deposited on the glass sheet is water? (02)

C) I) What is the disaccharide containing more in germinating seeds? (01)

II) Which sugar type is not available in plant (01)

III) Given the steps of a food test to identify proteins in a food. (03)

IV) Write a function of proteins. (03)

6) A) Magnesium metal is found as strips in the laboratory. Sodium is stored in paraffin oil as small pieces.

I) Why magnesium metal should be well cleaned before using? (01)

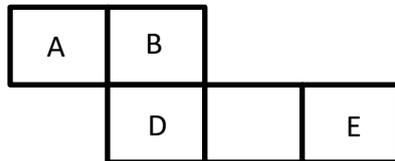
II) Why sodium metal is stored in paraffin oil? (01)

III) Compare the densities of sodium and magnesium relatively to water. (02)

IV) Explain and compare the reactions of Mg and Na with water. (02)

V) Write an important precaution to be considered when putting a piece of sodium in to water (01)

B) A part of the periodic table is quoted below. The symbols used in the following chart are not real symbols.



I) Write the electronic configuration of A and D, if the electronic configuration of B is 2,5 (02)

A -

D -

II) a) What is the group of E? (01)

b) Give the name of the group you maintained in (a) (01)

III) What is the period to which this element belongs? (01)

IV) Write the real symbols of A, B and D (03)

A -

B -

D -

C) Chlorine gas which is used in purification of water is represented in following methods



I) What is shown by the above symbols of chlorine? (01)

II) What is represented by 17 and 35 of ${}_{17}^{35}\text{Cl}$ atom.
17 35..... (02)

III) Which subatomic particle of above atoms is not equally found in number? (01)

IV) Write the electronic configuration of a neutral chlorine atom. (01)

7) A) The diagram given bellow shows how a force is applied on a still object to move it.



I) What is the name given to the resistant force which disturbs the motion of the object. (01)

II) A..... force should be given to initiate the motion of on object. (01)

III) What will happen when a force is applied on a moving object according to the first law of Newton? (01)

IV) Calculate the acceleration of an object with a mass of 5Kg which is moved by a force of 10N. (02)

V) What is the name given for the rate of decreasing velocity? (01)

B) I) Draw a diagram to show the action and reaction when the air is let out from an air filled balloon. (02)

II) What is the law of Newton associated with above phenomena? (01)

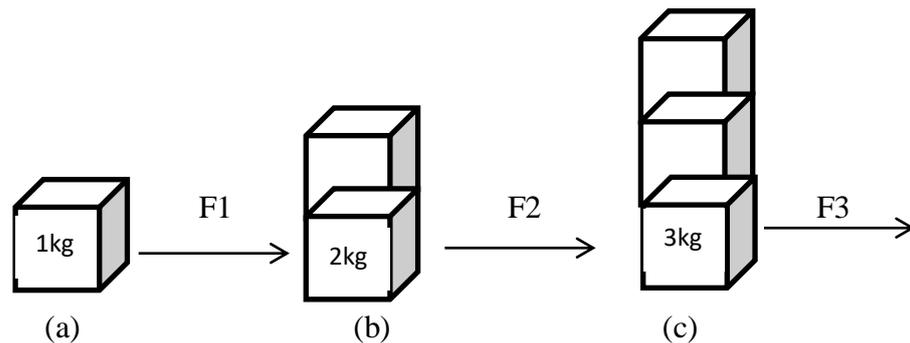
III) Give the momentum of an object using a equation. (01)

C) I) What are the three types of Frictional force (03)

II) Which frictional force has the highest value? (01)

III) Name two factors that effect on limiting frictional force. (02)

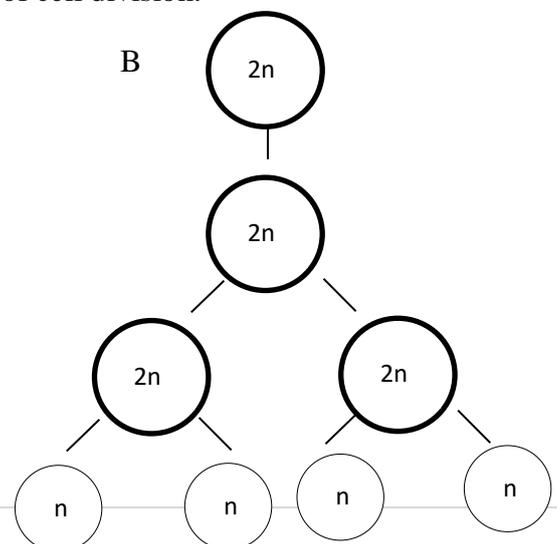
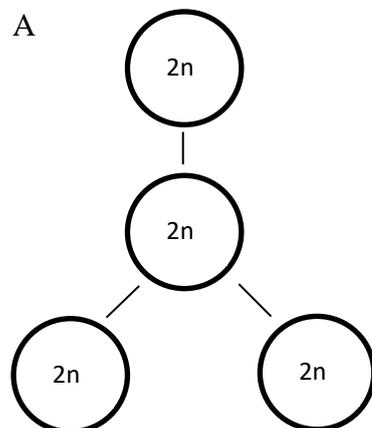
V) Give a method of affecting on limiting frictional force is tested in the above activity? (01)



VI) Which factor affecting on limiting frictional force is tested in the above activity? (01)

VII) Why do the tyres have designed surfaces with grooves? (02)

8) A) the diagram given bellow show two important processes of cell division.



- I) What is the process of dividing cellular substances in order to make new cells? (01)
- II) Name the processes shown by A and B. (02)
- A
- B
- III) Which one of the above processes is important for evolution? (01)
- IV) Which method of cell division is important in healing wounds? (01)
- B) I) What is the structural and functional unit of organisms? (01)
- II) Name two organelles that are common for both animal and plant cells. (02)
- III) Select the relevant organelle from the bracket and write in front of the function.
(Rhibozomes, Golgi bodies, cell membrane, cell wall, cell plasm, mitochondria)
- a) to maintain the shape of the cell.....-
- b) acts as a cover of the cell.-
- c) bearing organelles of the cell.-
- d) Synthesis of proteins.
- e) Cellular respiration- (05)
- C) I) Name the scierrtist who discovered the cell by observing a very thin layer of a cork. (01)
- II) The organisms that are made of single cell are called.....organisms. The organisms that are made of a combination of large number of cells are called organisms. (02)
- III) Name two scientists who involved to put forward cell theory. (02)
- IV) Name two important facts mentioned in cell theory. (02)
- 9) A) Carrom is a game played on a wooden board using wooden pucks called caroms. Players use disc called striker to push or move caroms.
- I) What is the law of Newton associated with the above game? (01)
- II) Write the law mentioned in (I) (02)
- III) Suggest a method to increase the speed of a carom. (02)

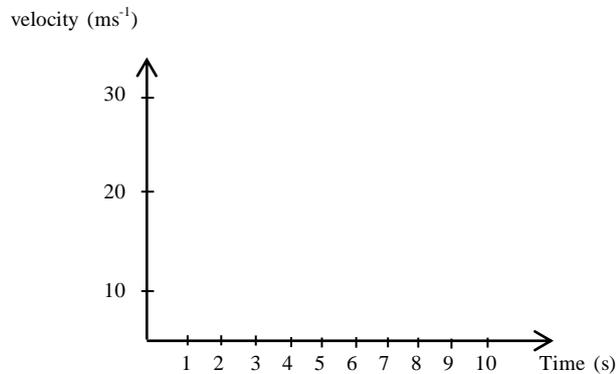
IV) If the mass of a carom is 20g. Find out the unbalanced force acting on it, when the carom is moving at velocity of 20ms^{-1}

(02)

B) A train started its motion at rest and obtained a velocity of 30ms^{-1} within 10 seconds.

I) Draw the velocity-Time graph associated with the motion of the train.

(02)



II) Calculate the linear distance covered by the train within 10 seconds.

(02)

III) Explain the nature of the motion shown by the train

(01)

IV) What is the velocity of the train in 5 seconds?

(01)

V) Find out the momentum of the train by the fifth second.(The mass of the train is 30000Kg)

(01)

C) The statements given bellow are associated with motion of objects make them true (\surd) or false (X)

I) The rate of the moving of an object is known as the speed ()

II) The displacement of an object depends on the path and the distance depends on the initial and final places of the motion ()

III) Velocity is a vector quantity ()

IV) The change of velocity within a unit time is called as displacement ()

IV) The weight of an object is the force by which it attracts towards the earth()

V) Static frictional force is acting on moving objects. ()

(06)