34 | E | I

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First Term Test - Grade 10 - 2020

Name/Index No. : ..... **Science - I** **Time :1 hour**

- Answer all questions.
- In each of the questions 1 to 40, pick one of the alternatives (1), (2), (3), (4) which you consider as correct or most appropriate.
- Marks a cross (X) on the number corresponding to your choice in the answer sheet provided.

01. What is the building unit of protein?
1) Monosaccharide 2) Amino acid 3) Fatty acid 4) Glycerol

02. Nucleus of an atom consists of
1) Only protons. 2) Protons and neutrons.
3) Protons and electrons. 4) Protons, neutrons and electrons

03. Which of the following is an amphoteric oxide?
1) Al_2O_3 2) Na_2O 3) SO_2 4) CaO

04. Standard unit of measuring weight of an object is,
1) g 2) kg 3) N 4) Nm

05. A polysaccharide stored in animal body is,
1) sucrose 2) cellulose 3) glycogen 4) starch

06. What is the organelle given in the diagram?

1) Mitochondrion 2) Chloroplast
3) Golgi complex 4) Endoplasmic reticulum

07. An element that present in nucleic acids but not in lipids is,
1) C 2) H 3) O 4) N

08. The element which is in 3rd period and 2nd group of the periodic table is,
1) Mg 2) B 3) Ca 4) Al

09. Water soluble and fat soluble vitamins are given respectively.
1) A and B 2) B and C
3) C and D 4) D and E

10. This is not a strategy applied to increase the friction.
    1) Applying rubber covers on pedals of motorbikes.
    2) Applying pair of tyres for rear wheels of a vehicle.
    3) Etching grooves on foot of slipper.
    4) Etching grooves on the surface of tyres.

11. Organelles in which photosynthesis and respiration are occured respectively.
    1) Cell wall and Ribosome.
    2) Ribosome and chloroplast.
    3) Chloroplast and mitochondria.
    4) Mitochondria and golgi complex.

12. Minimum energy that should be supplied to an atom in the gaseous state to remove an electron to from a unipositive gaseous ion is called.
    1) valency.
    2) first ionisation energy.
    3) electronegativity.
    4) isotopes.

13. What is the force required to give an acceleration of 3 m s^{-2} to an object with the mass of 6 kg.
    1) 0.5 N
    2) 2 N
    3) 8 N
    4) 18 N

14. What is the property of water that contribute to regulate body temperature.
    1) Solvent property.
    2) Coolant property.
    3) Flowing property.
    4) Less specific heat capacity.

15. All the bio - chemical reactions take place in the cell or body of organisms are catalyzed by proteins called,
    1) enzymes
    2) hormones
    3) biomolecules
    4) vitamins

16. Select the answer that consists of elements with valency of 2,
    1) Li, Be, B, O
    2) Mg, Ca, Be, O
    3) Na , Al, F, C
    4) Na, Mg, Al, Si

17. A and B are two living cells observed by electron microscope. Select the correct statement made regarding these cells.
    1) A is a plant cell while B is an animal cell.
    2) A is an animal cell while B is a plant cell.
    3) Both A and B are animal cells.
    4) Both A and B are plant cells.

A B

18. Which of the following is true regarding friction.
    1) Does not act on an object at rest.
    2) Dynamic friction is slightly more than the limiting frictional force.
    3) Always opposes to the motion of an object.
    4) Act between two surfaces oppose to their relative motion.

19. A significance of miosis is,
    1) for the growth of multicellular organisms.
    2) as an asexual reproduction method.
    3) replacement of new cells for dead cells.
    4) evolution due to variations.

20. Blisters were appeared on the knees and elbows of a child who suffered from a deficiency disease. Identify the relavent vitamin for above deficiency symptom.

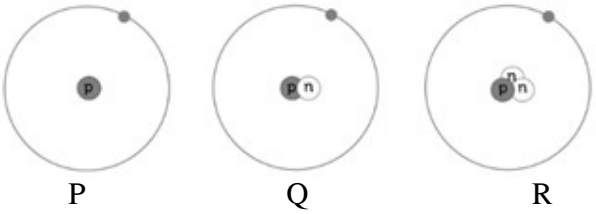
1) A 2) B 3) C 4) E

21. Three students made three models of atom. Following ideas were represented by another student regarding the models.

A. - Three istopes of same element.

B. - Three models of three atoms.

C. P and R models are wrong while only. Q model is correct.



Correct statement,

1) Only A 2) Only B 3) Only C 4) Only A and C

22. Four organelles in living cells are given below.

A - Chloroplast

B - Mitochondrion

C - Central vacuole

D - Rough endoplasmic reticulum

Organelles seen only in animal cells are,

1) A and B 2) B and C 3) A and C 4) B and D

23. Number of protons, neutrons and electrons of $^{23}_{11}Na^{+}$ ion are given respectively,

1) 10,11 and 12 2) 11,12 and 11 3) 11,12 and 10 4) 11, 23 and 10

24. A child apply a force of 500N to push a table kept on a uniform smooth surface as in the diagram. If the frictional force created by the table is 450N,

1) Table moves.
2) Table does not move.
3) Table just begins to move.
4) Table moves short distance and come to rest.

25. Ideas mentioned below were presented by four students regarding the significance of nucleic acid.

A. Important in controlling all cellular activities.

B. Transferring genetic information from generation of generation.

C. DNA and RNA are two types of nucleic acid.

D. Fatty acids and amino acids are the building units.

Correct statements among them are,

1) Only A and B 2) Only B and C 3) Only A, B and C 4) Only A , B and D

26. Typical cell is,

1) a cell belongs to body of unicellular organisms.
2) a cell belongs to body of multicellular organisms.
3) a cell that can be observed by microscopes.
4) a cell prepared by including all the organelles.

27. Standard units of measuring velocity and acceleration are given respectively by,

1) $m\ s^{-1}$ and $m\ s^{-2}$ 2) $m\ s^{-2}$ and $m\ s^{-1}$

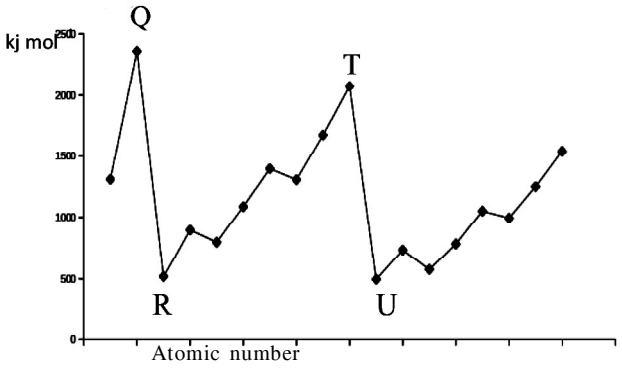
3) $m\ s^{-1}$ and $kg\ m\ s^{-1}$ 4) $m\ s^{-1}$ and $kg\ m\ s^{-2}$

- Following graphical representation shows the variation of first ionisation energy of 1st eighteen elements in periodic table. Use the graph to answer the question 28, 29, 30.

28. Element that has highest first ionization energy is,

1) Q 2) R

3) S 4) T



29. Three elements which are arranged in ascending order of their 1st ionization energy are,

1) T < Q < R 2) R < T < Q

3) Q < R < T 4) R < T < U

30. True elements represented by R and T letters are given respectively.

1) Li and Be 2) Li and Na 3) Li and Ne 4) Na and Ar

31. Few ideas about sodium metal are given below.

A) The metal can easily be cut with a knife.

B) Vigourously reacts with normal water forming Oxygen.

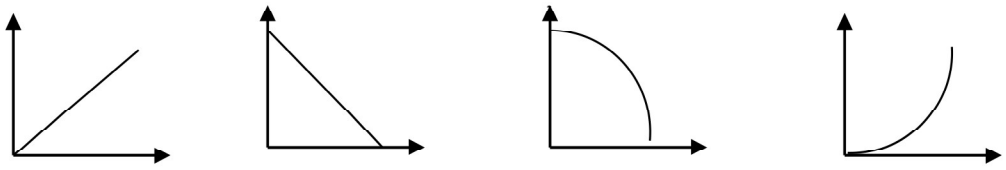
C) Floats on water because its density is less than water.

Correct statements are,

1) Only A and B 2) Only B and C

3) Only A and C 4) Only A, B and C

32. Which of the displacement - time graph represents the motion of a fruit falling from a tree.



1) 2) 3) 4)

33. A motor car which was moving on a road strik on a wall beside the road due to sleepiness of the driver. Consider the following statements made regarding the damage after striking.

A) More damage is happened when the car has more mass with uniform speed.

B) More damage is happened when the car has more speed with constant mass.

C) No damage is happened if the speed is uniform during the motion.

Correct statements are,

1) A and B 2) B and C 3) A and C 4) A, B and C

34. Consider the following statements made regarding electronegativity,
A. Electronegativity increases from left to right across a period.
B. Electronegativity of elements in viii /0 can not be assigned.
C. Highest electronegativity is shown by elements in vii th group along a period.
Correct statements are,
1) A and B 2) B and C 3) A and C 4) A, B and C

35. A child send a water rocket vertically upwards with a velocity of 40 m s^{-1}. What is the velocity occupied by the water rocket in its maximum height.
1) 0 m s^{-1} 2) 4 m s^{-1} 3) 40 m s^{-1} 4) 60 m s^{-1}

36. Consider the following statements given about the graphs plotted in order to represent motion.
A) Velocity can be calculated by the gradient of the straight line in displacement time graph.
B) Displacement can be calculated by the area under the curve of velocity - time graph.
From the above statements,
1) A is true while B is wrong. 2) B is correct while A is wrong
3) Both a and B are correct. 4) Both A and B are wrong.

37. Consider the following statements regarding the displacement of a moving object.
A. Forward displacement of motion have been taken as positive while backward displacement is negative.
B. Displacement would be zero, when walk forward and come back at the starting point on the same path.
C. Rate of change of displacement is called the acceleration.
D. Displacement has a magnitude and a definite direction.
correct statements among A, B, C and D are,
1) A and B 2) B and C 3) A and D 4) A, B and D

38. Consider the following statements made regarding the living cells by few students.
A) Structural and functional unit of living body.
B) All organisms are made up of one or more cells.
C) New cells are formed from pre existing cells.
Correct statements are,
1) A and B 2) B and C 3) A and C 4) A, B and C

39. Incorrect statement regarding Newton's law is,
1) Newton's first law states about external forces act on an object.
2) Newton's second law states about unbalanced forces act on an object.
3) Newton's third law states about mutual forces exerted oppositely on two objects.
4) firsts, second and third laws state about balanced forces act on two objects.

40. Consider the following sugestions given by a driver to obtain maximum fuel efficiency of a motor car travelling on a highway.
A. Drive with uniform velocity when ever possible.
B. Controlling the speed of the vehicle, by the accelerator than that of applying brakes.
C. Use of wide tyres for the wheels of the vehicle.
Correct sugestions among a, B, and C are,
1) A and B 2) B and C 3) A and C 4) A, B and C

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First Term Test - Grade 10 - 2020

Name/Index No. : ..... **Science - II** **Time :3 hours**

Instructions :

- **Write your answers in neat handwriting.**
- **Answer four questions in part A in the space provided.**
- **Answer three questions in part B in a seperate paper.**
- **Tie part A and answer script of part B together.**

Part A - Structured Essay Questions.

01.

A. Few steps of an activity done by grade 10 students to identify the elements present in bio molecules in living matter are given below.

a. Put few green gram seeds in dry condition in to a boiling tube and heat them.

b. Put anhydrous copper sulphate on the droplets collected at the top end of the boiling tube.

c. Remaining seeds in the boiling tube are heated well again.

d. Take a black green gram seed out of the boiling tube and rub against a white paper.

i. State the colour of hydrated and anhydrous copper sulphate respectively. (02)

.....

ii. Write the expected observation when anhydrous copper sulphate is put on droplets collected at the top end of the boiling tube. (01)

.....

iii. What is the substance that could be identified through the above observation.

..... (01)

iv. Name two elements present in above substance. .....

(02)

v. What is the observation obtained when black green gram seed is rubbed on write paper. (01)

.....

vi. What is the element identified by above observation. ..... (01)

vii. Green gram seeds used for above activity should be in good dry condition state why? (01)

.....

viii. Name another element in abundance in living matter, except the elements identified by above activity.

..... (01)

B. In another activity similar volumes of amylase solution prepared by green gram seeds and dilute aqeous stacrh solution were mixed together. A drop from this mixture, was taken on to white porcelain tile and added a drop of X solution. Colour change was observed. After every two minutes the same procedure of adding a drop of mixture and drop of X solution on to the while porcelain was continued until same observations are obtained.

i. Name X solution used in above activity. ……..……..…. (01)

ii. What was the colour obtained finally when same observation was repeated at the end of the activity.
..... (01)

iii. What is the advantage taken by adding a drop of strach solution on to the white porcelain for mixing it with a drop of X solution.
..... (01)

iv. Simply explain how an amylase extraction is prepared by green gram seeds. (02)
.....
..... (02)

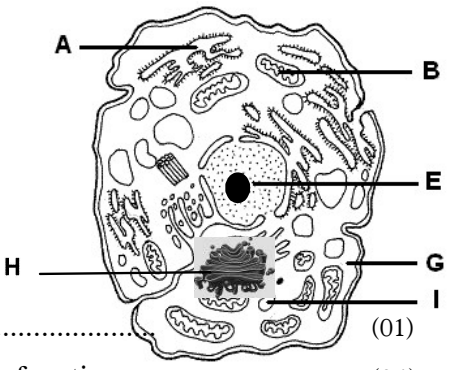
15

02.

A. A cell division of organisms takes place in two. methods called mitosis and meiosis. Fill in the blanks in the chart regarding cell division. (05)

Fact	Meiosis	Mitosis
a. Number of daughter cells formed by division of one mother cell.	.....	two
b. Number of chromosomes in one daughter cell formed by mother cell with 46 chromosomes	.....	.....
c. Does further division take place or not in daughter cells.	.....	.....

B. Typical cell belong to animal body is given below.



i. Name the organelles A, B, E (03)

A - .....

B - .....

E - .....

ii. What is the structure that does not present in this cell but present in all plant cells. ..... (01)

iii. Write the relavent letter of the organelle that perform following functions. (04)

a. Production of energy .....

b. Bear cell organelles and carryout different metabolic process .....

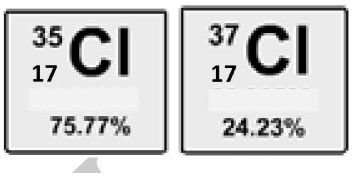
c. Transportation proteins .....

d. Production of secretory substances .....

iv. A student said that cholorophyl is present in the cells of plant leaves that fix with the plant but no chlorophyll in the matured leaves fallen from a tree. Based on which observation, did the student express above statement? (02)
.....

15

03. Two types of chlorine isotopes are shown below. percentage abundance is also given below in the square.



i. How many protons are in the nucleus of chorine atom? (01)
.....

ii. Write the electronic configuration of chlorine atom. ..... (01)

iii. What is the isotope of chlorine in abundance in a sample of chlorine gas. ..... (01)

iv. Fill in the chart. (06)

Fact	$^{35}_{17}Cl$	$^{37}_{17}Cl$
a. Atomic number		
b. Mass number		
c. Number of neutrons		

v. What are isotopes?
..... (02)

vi. State the standard representation of Hydrogen isotope with no neutrons. ..... (01)

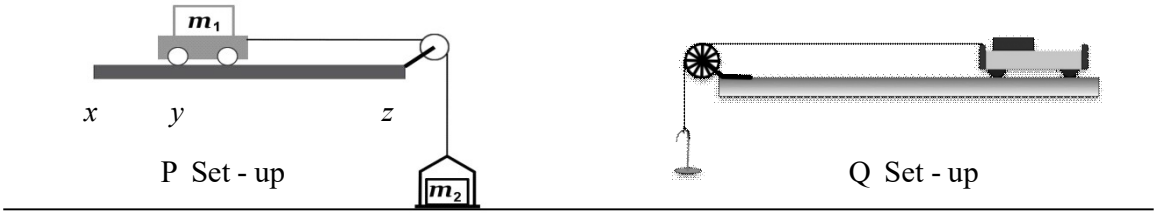
vii. State the velancies of Hydrogen and chlorine respectively ..... (02)

iv. Write the formulae of the compound made by combination of Hydrogen and Chlorine
..... (01)

15

04.

A. P and Q are two set ups used by two students to find the factors affecting the motion of an object



- Mass of m_1 in P diagram is 1 kg. Force applied by m_2 made trolly move from *x* to *y* on uniform smooth surface by its easily rotating wheels. when trolley reached to y, m_2 mass contacted with the ground.

i. Does the trolly move towards z further? ..... (01)

ii. Is the force applied by m_2 mass on the trolly push or a pull?
..... (01)

iii. Find the magnitude of that force. ..... (02)

iv. Put a ☑ in the relavent coloumn of the given chart regarding the acceleration of the trolly, if m_1 and m_2 masses are changed in the set up P. (04)

	Change done	acceleration of the trolly		
		decrease	Increase	no change
instead of m_2 mass	2 kg is used			
	0.5 kg is used			
m_2 is not changed but instead of m_1	a mass less than m_1 is used			
	a mass more then m_1 is used			

v. From the above data, it is proved that both force and mass of the object have an affect on the acceleration of an object. What would be the law formulated regarding these data.

..... (01)

vi. Sate Newton's third law. (01)

.....

B. The trolly in Q diagram did not move, when m_1 was kept on the trolly and m_2 was kept on the pan. A student said that the reason if acting friction.

i. State 3 places where friction acts in the setup Q. (03)

a. .....

b. .....

c. .....

ii. Trolly in Q set- up just began to move on smooth uniform contact surface. when another m_3 mass was kept on the pan. Name the frictional forces acting at the given instances. (02)

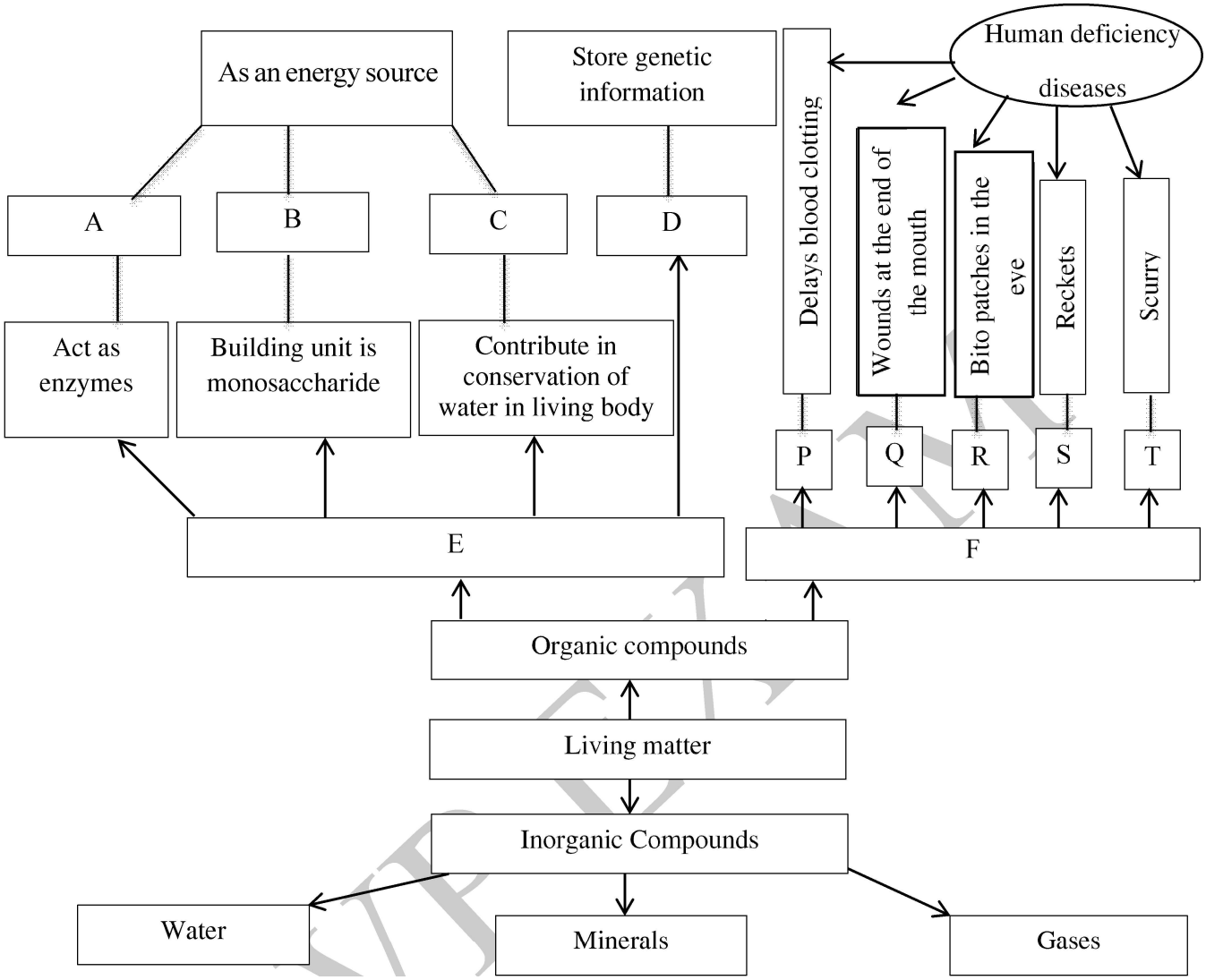
a. When the trolly is at rest : .....

b. when the trolly just began to move : .....

15

Part B - Essay type questions

05. A chart prepared by a student about chemical compounds that contribute in building living matter in human body is given below.



i. State relavent words for the letter A, B, C, D, E, F, P, Q, R, S and T in the above chart. (11)

ii. State two specific properties of water that help for mainteance of life. (02)

iii. Name the mineral that causes following deficiency symptoms in human body. (05)

a. Muscle cramps

b. Affects development of intelligence and goitre.

c. Weakening of bones and teeth.

d. Psychological disorders

e. Anaemia

iv. Name two gaseous compounds released from human body by living processes. (02)

(Total 20 marks)

06. A student used the following chart for constructing a periodic table which is based on the number of energy level carrying electrons and number of electrons present in outermost shell in first twenty elements Ten elements are included in the given chart.

		Number of electrons in outermost shell							
Number energy shells		1	2	3	4	5	6	7	8
	1								He
	2				C		O	F	
	3	Na	Mg	Al		P		Cl	Ar
	4								

i. Copy the above chart to your answer script. complete that chart including other 10 elements which are not already mentioned in it. (05)

ii. State what informations in the chart match with period and the group of the periodic table. (02)

iii. Write the electronic configuration of Mg and F (02)

iv. Mention the valency of Na, C and Ar (03)

v. Write the formulae of compounds made by combination of following elements. (02)

a. Mg and Cl

b. Al and O

vi. Write the formulae of following compounds. (03)

a. Alluminium chloride -

b. Sodium sulphate -

c. Calcium phosphate -

vii. From the elements given in the table, write respectively the elements which has highest electro negativity, lowest electronegativity and the element which can't express the electronegativity. (03)

(Total 20 marks)

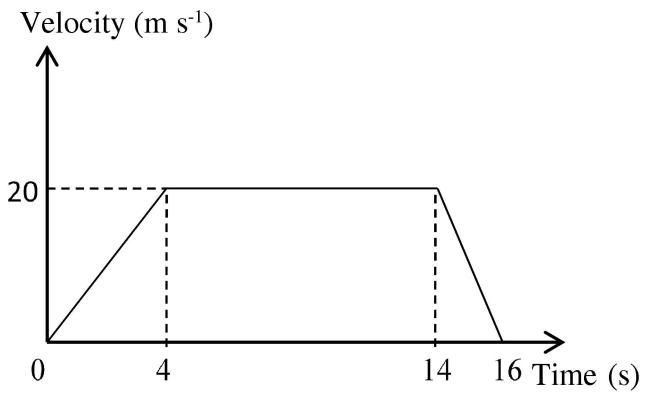
07. The graph below shows the variation of velocity with the time of an object.

i. Find the time travelled by uniform velocity. (02)

ii. What is the maximum velocity of the object during the motion. (02)

iii. Describe the motion of the object in accordance with direction of the motion, time and nature of motion. (03)

iv. Calculate the acceleration during first four seconds by finding the gradient of the straight line. (03)



v. Calculate the acceleration during last 2 seconds by taking the gradient of the straight line in the graph. (02)

vi. What is the different the velocities of the object during first four seconds and last two seconds. (02)

vii. Find the total displacement of the object during the motion. (03)

viii. A toy car travelled 4m forward in a straight linear path for 10 seconds with a uniform velocity. Then it stopped for 2 seconds and came 3m back on the same path with uniform velocity and stopped again. Plot the displacement time graph for the above motion. (03)

(Total 20 marks)

08. A. Minerals are essential for maintenance of plants and human body.

i. Sate the deficiency of which elements cause the following symptoms / diseases. (03)

a. Death of tips of leaves.

b. Dead cells and tissues throughout the plant and extra thickness in leaves.

c. Red and purple patches on leaves.

ii. Name 2 elements that cause deficiency disease called chlorosis in plants. (02)

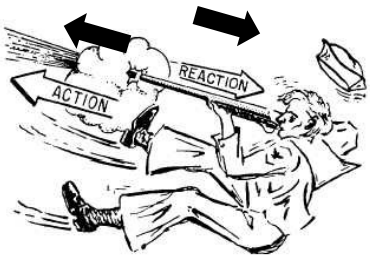
iii. Name 2 minerals that are important for proper functioning of plant enzymes. (02)

iv. Define what are trace elements and macro elements. (02)

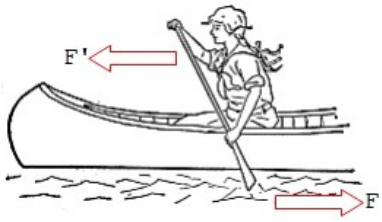
v. What is the geseous element present in salts that applied to plants for increase their growth. (01)

B. Existance of an object which is at rest, moving with uniform velocity and moving with acceleration can be described by newtons laws.

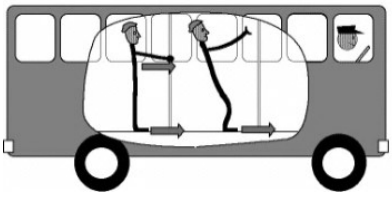
i. Study the following pictures well. State the Newtons law that illustrates each of the following incidents. (03)



a.



b.



c.

ii. A mango falling freely from a plant took 02 seconds to contact with the ground.

a. Find the velocity with which the fruit strikes the ground. (g =10 m s^{-2}) (02)

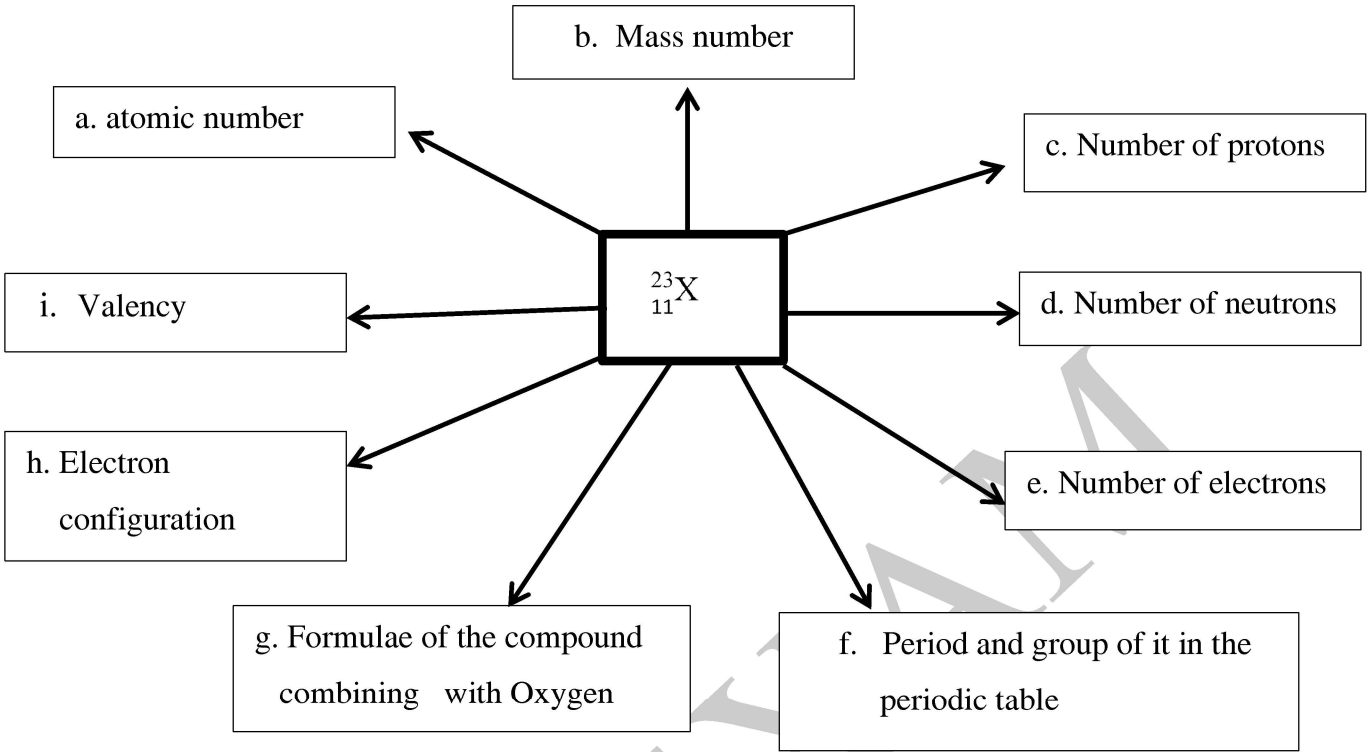
b. If the mass of fruit is 200g, find the momentum of it when the fruit strikes on the ground. (03)

c. Momentum of another fruit fallen freely from same plant was higher than that of previous one. Give 2 reasons caused for that difference. (02)

(Total 20 marks)

09. A.

Standard notation of X is $^{23}_{11}X$. Given following details with regard to X form (a) to (i).



(09)

B. Variation of the displacement with time of an object is shown below.

Time (s)	00	01	02	03	04	05	06
Displacement of A (m)	00	03	06	09	12	15	18
Displacement of B (m)	00	03	05	08	13	15	18

i. From the objects A and B, What object has been moved with uniform velocity? (01)

ii. Calculate the velocity of A object using the data given in above chart. (03)

iii. Calculate the velocity of B using the data given in above chat. (02)

iv. Plot the displacement time graph for the motion of A object. (03)

v. Calculate the velocity of A object by finding the gradient of the straight line drawn in the graph. (02)

(Total 20 marks)

34 | E | I,II,III

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First Term Test - Grade 10 - 2020

Science Answer Sheet

Paper - I

(1)	-	2	(11)	-	3	(21)	-	1	(31)	-	3
(2)	-	2	(12)	-	2	(22)	-	4	(32)	-	1
(3)	-	1	(13)	-	4	(23)	-	3	(33)	-	1
(4)	-	3	(14)	-	2	(24)	-	1	(34)	-	4
(5)	-	3	(15)	-	1	(25)	-	3	(35)	-	1
(6)	-	3	(16)	-	2	(26)	-	4	(36)	-	3
(7)	-	4	(17)	-	2	(27)	-	1	(37)	-	4
(8)	-	1	(18)	-	4	(28)	-	1	(38)	-	4
(9)	-	3	(19)	-	4	(29)	-	2	(39)	-	4
(10)	-	2	(20)	-	1	(30)	-	3	(40)	-	1

(1 x 40 = 40 marks)

Paper - II

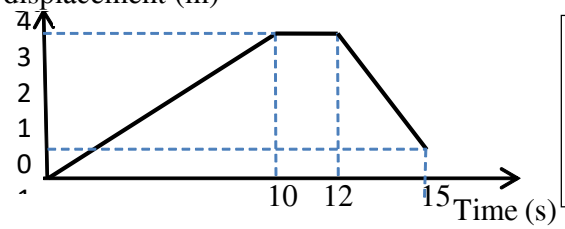
Part - A - Structured Essay Questions

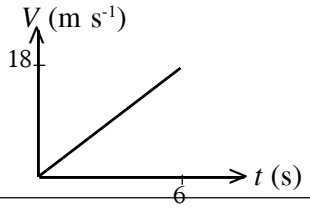
01			
A.	i	Blue (01) White(01)	02
	ii	White copper Sulphate turns blue	01
	iii	Water	01
	iv	Hydrogen (01) Oxygen (01)	02
	v	Black lines on the paper	01
	vi	Carbon	01
	vii	To prove that water is given out and it is a constituent	01
	viii	Nitrogen	01
B.	i	Iodine / Iodine solution	01
	ii	Yellow / Brown / Yellowish brown	01
01			
	iii	Colour change / To take observations clearly	01
	iv	Filter the mixture which is made by water and ground geminating green gram seeds.	02
			15
02	a	Four	01
A	b	Miosis - 23 (01) mitosis - 46 (01)	02
	c	Miosis - does not occure (01) Mitosis - occure (01)	02
B	i	A - (Rough) Endoplasmic reticulum (01) B - Mitochondria (01) E - Nucleolus (01)	03

		Answer	
	ii	Cell wall	01
	iii	a. B (01) c. A (01) b. G (01) d. H (01)	04
	iv	Absence of chlorophyll in matured leaves fallen from the tree	02
			15
03.	i	17	01
	ii	2,8,7	01
	iii	$^{35}_{17}Cl$	01
	iv	17 (01) 17 (01)	02
		35 (01) 37 (01)	02
		18 (01) 20 (01)	02
	v	Atoms of which mass number is different. atoms of which atomic number is similar but mass number is different. Atoms with similar number of protons, but different number of neutrons.	02
	vi	$^{1}_{1}H$	01
	vii	01 and 01 (01 for each)	02
	viii	HCl	01
			15
04			
A	i	move	01
	ii	a pull 01	
	iii	10 (01) N (01)	02
	iv	In the column Increase ☑	01
		In the column Decrease ☑	01
		In the column Increase ☑	01
		In the column Decrease ☑	01
	v	Newtons second law	01
	vi	For every action, there is an equal and opposite reaction	01
B	i	a. In the pulley / at the rotational axis of the pulley (01)	
		b. Wheels of the trolley / at the rotational axis of the wheel (01)	
		c. On the contact surface / Plank (01)	03
	ii	a. Static (frictional force) (01) b. Limiting (frictional force) (01)	02
			15
		Part A Total 60 marks	

Part - B

05			
A	i	A. - Protein (01) B. - Carbohydrate (01) C. - Lipid (01) D. - Nucleic acid (01) E. - Bio molecules (01) F. - Vitamins (01) P - K (01) Q - B (01) R - A (01) S - D (01) T - C (01)	11
	ii	Solvent property / coolent property / High specific heat capacity.	02
	iii	a. Sodium (01)	
		b. Iodine (01) c. Calcium / phosphorus (01) d. Potassium (01) e. Iron (01)	05
	iv	Carbondioxide (01) Water (01)	02
			20
06			
	i	<table><tr><td colspan="2"></td><td colspan="8">Number of elements in the outer shell</td></tr><tr><td rowspan="5">Number of energy sheells in the atom</td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr><tr><td>1</td><td>H</td><td></td><td></td><td></td><td></td><td></td><td></td><td>He</td></tr><tr><td>2</td><td>Li</td><td>Be</td><td>B</td><td>C</td><td>N</td><td>O</td><td>F</td><td>Ne</td></tr><tr><td>3</td><td>Na</td><td>Mg</td><td>Al</td><td>Si</td><td>P</td><td>S</td><td>Cl</td><td>Ar</td></tr><tr><td>4</td><td>K</td><td>Ca</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> If all 10 elements are correct - 5 marks If all 9 or 8 elements are correct - 4 marks If all 7 or 6 elements are correct - 3 marks If all 5 or 4 elements are correct - 2 marks If all 3 or 2 elements are correct - 1 marks If all one elements are correct - no mark	05
	ii	Period - Number of shells in the atom (01) Group - Number of electrons in the outer shell (01)	02
	iii	Mg = 2,8,2 (01) F = 2, 7 (01)	02
	iv	Na = 1 (01) C = 4 (01) Ar = 0 (01)	03
	v	a.$MgCl_2$ (01) b.Al_2O_3 (01)	02
	vi.	a.$AlCl_3$ (01) b.Na_2SO_4 (01) c. $Ca_3(PO_4)_2$ (01)	03
	vii	F (01), Na (01) , He / Ar (01)	03
			20

07			
A	i	10 S / ten seconds (If units are not stated 01 mark)	02
	ii	20 m s^{-1} (If units are not mentioned 01 marks)	02
	iii	In first four seconds it moves forward direction (01) with uniform acceleration / Positive acceleration, than it moves with uniform velocity during ten seconds. Suring last two seconds it moves with deceleration last two seconds it moves with deceleration / negative acceleration and comes to rest.	03
	iv	Gradient of the straight line = $\frac{\text{difference between Y coordinates}}{\text{difference between X coordinates}}$ (01) = 20 - 0 / 4 - 0 (01) = 5 m s^{-2} (01)	03
	v	Gradient of the straight line = $\frac{\text{difference between Y coordinates}}{\text{difference between X coordinates}}$ = 0 – 20 / 16 - 14 (01) = - 10 m s^{-2} (01)	02
	vi	During first four seconds - velocity increases During last two seconds - velocity decreases	02
	vii	Area of Trapesium = $\frac{\text{Addition of 2 parallel sides x Perpendicular height}}{2}$ (01) = $\frac{(16 + 10) \times 20}{2}$ (01) = 260 m (01) (If no units no marks)	03
	viii	displacement (m)  Name the axis with values - (01) Drawing the motion in forward direction (01) Drawing the motion to backwards and coming to rest.	03
			20
08			
A		i a. Calcium (01) b. Zinc (01) c. Phosphorus (01)	03
		ii Nitrogen / Potassium / Sulphur / Iron	02
		iii Calcium (01) / Zinc (01)	02
		iv Macro elements - Elements which are needed in more amount Trace elements - Elements required in less amount.	02
		v Nitrogen / N	01
B		i a. Third law (01) b. Third law (01) c. First law (01)	03
		ii a. 20 m s^{-1} (02) (If no units 01 marks) b. Momentum = mass x velocity / P = mv (01) = 0.2 x 20 (01) = 4 kg m s^{-1} (01) (If the student has taken another answer except 20 m s^{-1} for the calculation of (a), and if the calculation for v is done correctly with that answer, marks are assigned to give.)	04
		c. Mass of mango is more then 200g (01) Height where the mango is in plant is more (01)	02
			20

09			
A	a	11	01
	b	23	01
	c	11	01
	d	12	01
	e	11	01
	f	i and 3	01
	g	X_2O	01
	h	2,8,1	01
	i	01	01
B	i	A	01
	ii	Velocity = $\frac{\text{Displacement}}{\text{Time}}$ (01) = 18/06 (Marks are assigned to give for any correct value for) (01) = 3 m s^{-1} (01)	03
	iii	Mean velocity = $\frac{\text{Total displacement}}{\text{Total time}}$ = $\frac{18}{06}$ (01) = 3 m s^{-1} (01)	02
	iv	To name x an y axis correctly (01) To mark the values correctly on x and y axis (1) Drawing the correct line in the graph. (1) 	03
	v	Gradient of the straight line = $\frac{\text{difference between y coordinates}}{\text{difference between x coordinates}}$ = 18 - 0 (01) 06 - 0 = 3	
		= 3 m s^{-1} (01)	02
			20
		Marks for multiple choice questions 2 x 40	80
		Marks for Part A 15 x 4 = 60	60
		Marks for Part B 20 x 3 = 60	60
		Total marks 200 / 2	**100**

Consider :

- Assign marks for the correct answers which are not mentioned in the answer script. (Answer should confirm the concept regarding to the question.
- Marks are not given for the final answer which is expected with units but has not stated the units.
- Before and after giving marks, discussion should be done with the children, considering of pre train them for G. C. E O/L examination.