





Time : One Hour

1. A Monosaccharide is
  1. Fructose
  2. Maltos
  3. Lactose
  4. cellulose
2. A Vector quantity is
  1. Distance
  2. Speed
  3. Mass
  4. Weight
3. Not an element in lipid is
  1. C
  2. H
  3. N
  4. O
4. Following is a part of periodic table. There are not standard symbols. A tomic numbers are given

1				
3	4 x	5	6	
11	12	13 y	14	
19 z	20			

1. X is in the IV group
2. Z belongs to 1<sup>st</sup> period
3. X is in II group and 2<sup>nd</sup> period
4. Y belongs to 4<sup>th</sup> period

1.  2.  3.  4. 

1. 
2. 
3. 
4. 

- 01 -

10. The are 3 places of getting reading of weight of an object using a spring balance  
 A - in top of mountain  
 B - in sea level  
 C - in a bottom of the mine  
 The correct statement is,  
 1. the heighest weight is in top of mountain  
 2. B place has heighest weight  
 3. value is different in 3 places  
 4. C has lowest weight
11. The number of proton in atom which atomic number is 8 and mass number is 17  
 1. 8  
 2. 9  
 3. 17  
 4. 25
12. Chemical properties of magnesium are given below  
 A. react with cold water and form magnesium oxide.  
 B. heated in steam and form magnesium oxide.  
 C. burn in air and form magnesium oxide.  
 The correct statements are,  
 1. A  
 2. B  
 3. C  
 4. A, B, C
13. **Incorrect** statement about enzyme is ,  
 1. Increase the rate of chemical reaction  
 2. Produced by organisms  
 3. Activate in any temperature  
 4. Made by protein
14. The strongest base is,  
 1.  $\text{Na}_2\text{O}$   
 2.  $\text{Al}_2\text{O}_3$   
 3.  $\text{P}_2\text{O}_3$   
 4.  $\text{SO}_3$
15. A property of carbohydrate is  
 1. All carbohydrates dissolve in water  
 2. Smallest unit is monosaccharide  
 3. The ratio between C and N is 2:1  
 4. Galactose is a disaccharide
16. Properties of hydrogen ,boron and carbon respectively are  
 1. metals , non- metals , metalloids  
 2. non – metals , metalloids ,non - metals  
 3. nobal gas , metalloids , non – metals  
 4. metalloids , nobal gas ,non -metals
17. The correct statement about the motion of falling a fruit from a tree.  
 1. has a uniform velocity.  
 2. decelerate and become rest  
 3. has gravitational force and move  
 4. has a lowest velocity before touch the land
18. The element which show yellow and brown patches in leaves as deficiency symptoms ,  
 1. zinc  
 2. Calcium  
 3. potassium  
 4. phosperous
19. Dynamic frictional force applyies in  
 1. before starting motion  
 2. when moving  
 3. just moving  
 4. after become rest
20. **Not** a method of reducing friction is  
 1. applying oil to chain  
 2. applying grease  
 3. use bearing to vehicles  
 4. use rubber pads to brakes
21. Non-living organelle in a cell is ,  
 1. Cell wall  
 2. Mitochondrion  
 3. Plasm membrane  
 4. Nucleus
22. A characteristic of an element belongs to III group in periodic table is  
 1. a metal  
 2. has properties of metalloids  
 3. a non metal at room temperature  
 4. has 2 electros in outermost shell
23. Needed element for producing thyroxin is  
 1. sodium  
 2. magnesium  
 3. Iron  
 4. Iodine
24. Strandard representation of Deuterium is  
 1.  ${}^2_1\text{H}$   
 2.  ${}^3_1\text{H}$   
 3.  ${}^1_1\text{H}$   
 4.  ${}^1_0\text{H}$
25. An object with rest falls vertically during 3 seconds. Find the height of an object which falls down.  
 1. 3 m  
 2. 10 m  
 3. 45 m  
 4. 90 m

26. The vitamin soluble in water is

1. A                                      2. C                                      3. E                                      4. K

27. An example for equilibrium of force is ,

1. Object in uniform velocity                                      2. Object moving with acceleration  
3. Object moving with deceleration                                      4. falling of an object under gravitational force

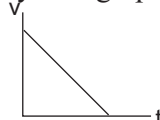
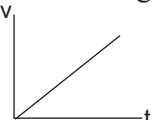
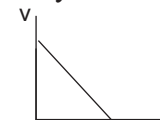
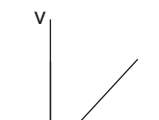
28. The Sulphate of x is  $\text{XSO}_4$  valency of x is ,

1. 1                                      2. 2                                      3. 4                                      4. 6

29. Atomic numbers of WXY & Z respectively are 2, 6, 10 and 20. which of the above element has the heighest  $1^{\text{st}}$  ionization energy.

1. W                                      2. X                                      3. Y                                      4. Z

30. Velocity time graph which shows the falling of an object freely.

1.                                       2.                                       3.                                       4. 

31. **Not** a property of magnesium is ,

1. sonorous sound                                      2. good electrical conductor  
3. malleability and ductility                                      4. brittleness

32. The type of carbohydrate that stores in animal liver is ,

1. cellulose                                      2. starch                                      3. glycogen                                      4. galactose

33. The displacement traversed by a certain object is shown the table below

Time (s)	0	1	2	3	4
displacement (m)	0	2	4	6	8

The correct statement is ,

1. The object is accelerated                                      2. Object has uniform velocity  
3. Object has deceleration                                      4. Object comes to starting point

34. A child goes 10 m to east from A, and goes 5 m, to north then move 10 m to West again and stop what is the displacement of the child ?

1. 5 m                                      2. 10 m                                      3. 120 m                                      4. 25 m

35. An object moves  $8 \text{ ms}^{-1}$  in uniform velocity for minutes along a straight line. Find the displacement at the end of the movement

1. 4 m                                      2. 10 m                                      3. 120 m                                      4. 25 m

36. The mass of an object is 4 kg and it is moving a velocity of  $2 \text{ ms}^{-1}$ . The momentum is

1.  $2 \text{ kg ms}^{-1}$                                       2.  $6 \text{ kg ms}^{-1}$                                       3.  $8 \text{ kg ms}^{-1}$                                       4.  $16 \text{ kg ms}^{-1}$

37. Given bellows are 3 statements regarding second law of Newton

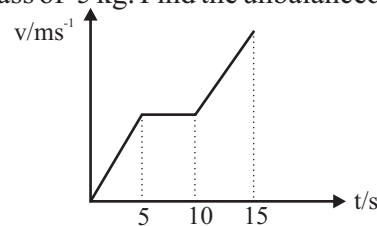
- A - force equals to multiplication of mass and acceleration  
B - force inversely proportional to acceleration  
C - mass directly proportional to acceleration

Correct statements are,

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

38. Given below is a velocity - time graph of the motion of an object with mass of 5 kg. Find the unbalanced force exerted on an object during 5 s - 10 s

1. 0N                                      2. 1N                                      3. 2N                                      4. 4N



39. **Incorrect** statement of an element which has 14 in atomic number

1. It is in IV group                                      2. Valency is 4  
3. Helps to produce carbohydrates                                      4. It is a liquid at room temperature

40. The component helps to prevent constipation is ,

1. Vitamins                                      2. Fibrous                                      3. Minerals                                      4. Proteins

Time : Three Hour

- ### Part - A (Structured essay)

-

2. A. Given below are some steps not in order that are followed by student to observe onion peel through microscope
- peel off a thin layer of onion
  - covered with a cover slip
  - place the onion peel on a glass slide
  - keep onion peel in to watch glass contain water

i. Write correct order should be followed by the student using relevant letters

.....

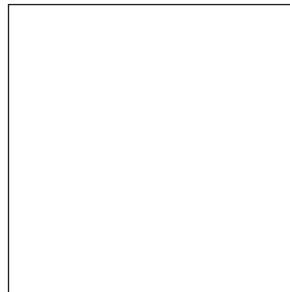
ii. Write the expected aim which followed by step 'd'

.....

iii. What is the advantage of covering the tissue with cover slip

.....

iv. Write two differences between onion peel cell and an animal cell



v. Draw a rough sketch of onion peel can be observed through microscope

.....

B. The organelles are structures which perform specific functions in cells

i. Complete the table given below related with the cell organelles

Organelle	Function
a. Golgi body	.....
b. ....	Synthesis of protein
c. Mitochondria	.....

ii. State the substance in nucleus which carries inherited character.

.....

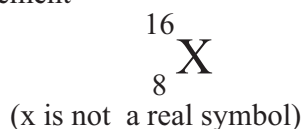
iii. Write two substances in cell sap

.....

iv. Write two factors included in cell theory.

.....

3. Given below is a standard symbol of element



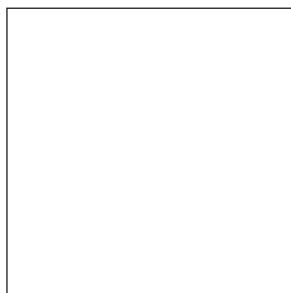
i. Write mass number and atomic number of above element

.....

ii. Write number of neutrons and protons in it

.....

iii. Draw a sketch of arrangement of electrons in above atom



iv. Two isotopes are abundant in above atom. What is the sub atomic particle with different number in it?

.....

v. Li, B, N and F are belonging to the same period of the periodic table. Write the reason for above statement using knowledge of electron configuration

.....

.....

vi. What is the reason for above 4 elements are include in different groups?

.....

.....

vii. What is the valency number of Li?

.....

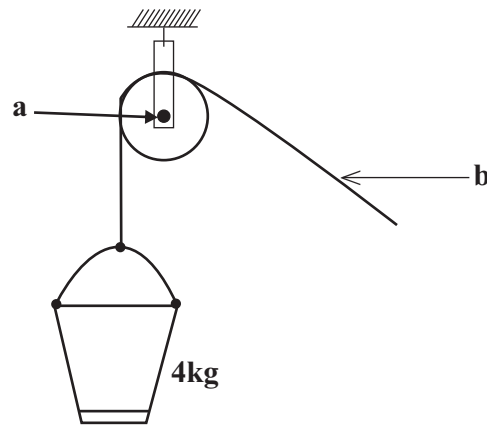
viii. Write the formula of lithium sulphate.

.....

ix. Write the period and group which element B belongs

.....

4. Given below is a stratage that used to draw water from well. The sound is produced while using it



- i. what is the advantage of minimizing the frictional force on "a"?  
.....
- ii. Write two methods can be used to reduce the frictional force on "a"  
.....
- iii. Explain the difference between frictional force which applied on empty bucket and a bucket full of water  
.....
- iv. The mass of bucket with water is 4 kg. Find the weight of it.  
.....
- v. a. Calculate the acceleration of bucket which falls down due to broken of its string.  
.....  
b. Calculated the force exerted on earth while the bucket is touch on the earth
- vi. State a method of wasting energy in this system  
.....
- vii. Write the advantage of using core rope instead of nylon rope  
.....
- viii. Coir rope is eco frendly than the nylon rope. Explain briefly.  
.....

## Part - B

5. A. Given below are compounds which composed of living matter

Protein	vitamin	Lipids
Water	Nucleic acids	Carbohydrates

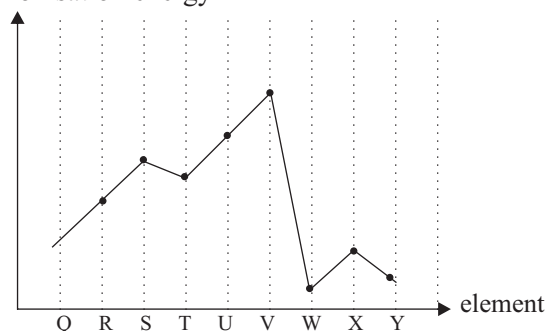
- I. Classify , biological molecules from above list
- ii. Write two elements can be found in every biological molecule
- iii. Carbohydrates can be classified in to three types.
  - a. write the type of carbohydrate that starch and sucrose belongs
  - b. you have provided two boiling tubes, equal amount of glucose and sucrose solutions Benedict solution, Hot water bath and a burner. Explain how to identify glucose and sucrose separatly
- iv. Which of the above molecule contributes to produce anti bodies
- v. Write two specific properties of water
- vi. Write two biological molecule which stored genetic information in virus.

B. Given below are two deficiency diseases of plants

- a. Death of apical bud
- b. chlorosis in leaves and retarded growth

- i. What is the dificeieny of element in above plant
- ii. Mention a preventing method of above "b" features in plant
- iii. Mention a function of iodine in human body
- iv. What is the vitamin can be synthesized when exposed to sunlight in the morning
- v. Write a significance of vitamin A

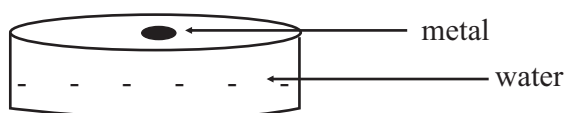
6. A.



Above diagram shows a graph of 1<sup>st</sup> ionization energy of elements. Which belongs to 2<sup>nd</sup> & 3<sup>rd</sup> periods. Answer the questions using above graph

- i. Define 1<sup>st</sup> ionization energy
- ii. State the group that element V belongs
- iii. Explain how you identify the above Group
- iv. Write the element with lowest 1<sup>st</sup> ionization energy
- v. Write an electron configurations of element W
- vi. Write two elements with equal valency numbers
- vii. State the element with lowest electro negativity among given elements

B. The diagram depicts the reaction between a metal and water



- i. What is the name of the element
- ii. Write down the Stranded symbol of above element
- iii. What is the reason for storing above element in parapin wax
- iv. What is the physical property of that element which help to float on water
- v. Write two observations of burning magnesium in air
- vi. Write the formula of compound which formed during the above reaction
- vii. Write two uses of magnesium

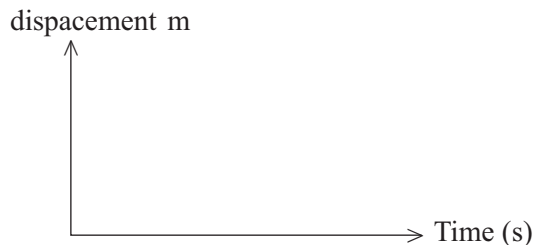


7. A. An object moves 10 m along a straight path to east from initial point during 20 seconds. And it stopped during 5 seconds. Again it moves to West within another 10 seconds and reach to the initial point.

- i. Prepare a data table for above information

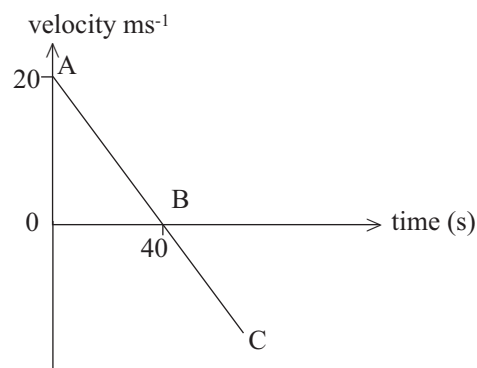
Time				
displacement				

- ii. Draw a displacement time graph related to the data table



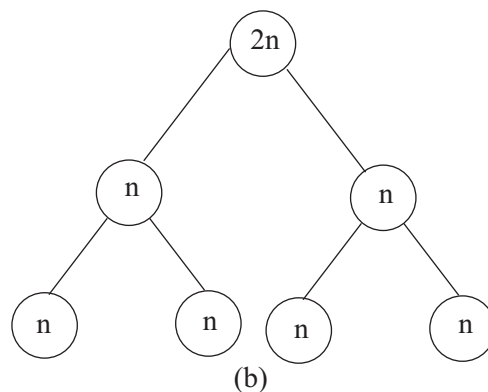
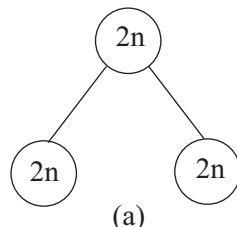
- iii. Find the total displacement of an object  
 iv. Find the total distance traverse by an object  
 v. Calculate the velocity of an object during first 20 seconds  
 vi. What is the total time duration of that motion

- B. Below diagram shows a velocity time graph



- i. What is the initial velocity of an object  
 ii. Find the total distance traversed from A-B  
 iii. The graph shows a straight line explain the meaning of it  
 iv. Write an example for above type of motion  
 v. What is the instance that object become stationary from above AB and C

8. A.



- i. Define a cell division  
 ii. Name two type of cell division given above  
 iii. State two difference between above methods of cell division  
 iv. Write two instance which division a occurs  
 v. State a type cell division which contributes to maintance of the constant number  
 vi. Explain what is known as cell growth

B. A balloon filled with a gas on child's hand released and rises up vertically in the air.

- Write down the Newton law of motion which is connected to the instance mentioned above
- Write action and reaction respectively in above instance
- Find the force exerted on the balloon with 50 g which accelerates at  $2\text{ms}^{-2}$
- Find the velocity of the balloon at maximum height it can be reached
- What is the name of the force exerted on balloon to go down
- Write the physical property of balloon surface which helps to release the gas inside it.

9. Diagram shows an arrangement of some elements in periodic table

L							M
	P		Q		R		
					T		
U							

- state the element with lowest reactivity
- state the element with highest reactivity
- write two elements which belong to the same period
- explain the reason for element "M" belongs to (viii) group
- which of the above letter denotes sulphur
- write two observations can be obtained during the burning of sulphur in air
- write two gaseous elements from above
- write two forms of elements Q

B. It is difficult to stop the put (heavy iron ball) rolling on the ground

- Define a velocity
- write an example for object which moves with uniform velocity
- the velocity above put is  $0.5\text{ms}^{-1}$  calculate the displacement of it during 10 seconds
- write two instances where momentum is used in daily life
- state two factors affected on above momentum

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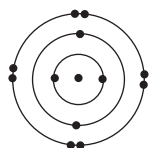
**First Term Test - 2018**  
**Science - Grade 10**  
**Answers**  
**Part I**

1. 1	11. 1	21. 1	31. 4
2. 4	12. 3	22. 4	32. 3
3. 3	13. 3	23. 4	33. 2
4. 3	14. 1	24. 1	34. 1
5. 2	15. 2	25. 3	35. 4
6. 1	16. 2	26. 2	36. 3
7. 4	17. 3	27. 1	37. 1
8. 1	18. 3	28. 1	38. 1
9. 3	19. 2	29. 3	39. 4
10.3	20. 4	30. 2	40. 2

**Part II**

- 1
- i. plant (1 mark)
  - ii. Oxygen (1 mark)
  - iii. photosynthesis (1 mark)
  - iv. a. diabetics (1 mark)
  - b. do not use fales  
     not releasing poisoynos gas (1 mark)
  - v. metal – iron  
non- metal-rubber (2 mark)
  - vi. metals  
has a shine  
has a sonorous sound  
ductility and meleability  
conduct heat and electricity
  - non-metals  
has not shine  
has not a sonorous  
brightness  
do not conduct heat and electricity (2 mark)
  - vii. suitable answer (1 mark)
  - viii. frictional force (1 mark)
  - ix. has grooves (1 mark)
  - x. in handle, between chain and log wheels (1 mark)
  - xi. apply grease , oil, bearings (2 mark)
2. A
- I. a, d, c, d
  - ii. suitable answer
  - iii. suitable answer
  - iv. correct characteristics
  - B. i. a - secretions
  - b - ribosome
  - c - lerobic respiration
  - ii. nucels (1 mark)
  - iii. DNA (1 mark)
  - iv. sugar, irons, water (2 mark)
  - v. Phestrafrals and fractional unit of life is cell. Allorganisam are made up of one or more cells.  
New cells are formed from preexisting cells (15 mark)

3. i. 8, (1 mark) 16, (1 mark) (2 mark)
- ii. p - 8 n- 8 (2 mark)



(2 mark)

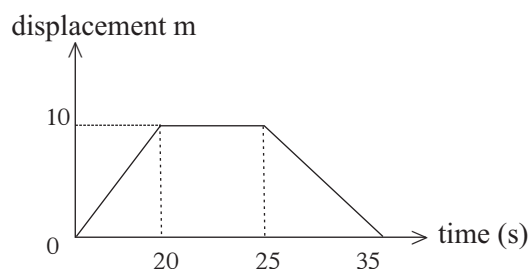
- iv. neutrons (1 mark)
- v. suitable answer (2 mark)
- vi. change the number of cells (2 mark)
- vii. I (1 mark)
- viii.  $\text{Li}_2\text{CO}_3$  (1 mark)
- ix. iii group (1 mark)
- 2<sup>nd</sup> period (1 mark)
- (15 mark)**
4. i. make easy to work (2 mark)
- ii. (2 mark)
- iii. correct explanation (2 mark)
- iv. 40N (1 mark)
- v. (a).  $10\text{ms}^{-2}$ /gravitational acceleration (b).  $F = ma \ 4 \times 10 = 40\text{N}$  (2 mark)
- vi. increase friction (2 mark)
- vii. as a sound (2 mark)
- viii. correct explanation (1 mark)
- (15 mark)**
5. A i. carbohydrate, proteins, lipids, neutricasids (2 mark)
- ii. C, H, O (2 mark)
- iii. a - polysaccherds (1 mark)
- b - put 2 solutions in to boiling tubes and heat using awater bath observations are blur -green-yellow -orange -brick red, sucrose - not a colour change (3 mark)
- iv. Proteins (1 mark)
- v. solvent, transport medium , high cohesive and adenum force (2 mark)
- vi. Nucleic acid
- B. i. ca (1 mark)
- ii. add nitroems fertilizer (2 mark)
- iii. producing thyroxine hormone (1 mark)
- C. i.
- ii. vitamin D
- iii. producing colour pigments use to sight
- (20 mark)**
6. A i.
- ii. viii group (1 mark)
- iii. heighhestionization energy (2 mark)
- iv. W (1mark)
- v. 2, 8, 1 (1 mark)
- vi. Q Y (2 mark)
- vii. W (1 mark)
- B. sodium (1 mark)
- ii. Na (1 mark)
- iii. reacts with oxygen (2 mark)
- iv. low density than water (1 mark)
- v. remains white powder
- has a bright flame (2 mark)
- vi. MgO (1 mark)
- vii. correct uses (2 mark)

7. A. i.

time	0	20	25	35
displacement	0	10	10	5

(2 mark)

ii.



(2 mark)

iii. O

(2 mark)

iv. 20m

(1 mark)

v.  $10/20 = \frac{1}{2} = 0.5\text{ms}^{-1}$

(2 mark)

vi. 20s

(1 mark)

b. I.  $20\text{ms}^{-1}$

(2 mark)

ii.  $20 \times 40 = 400\text{m}$

(3 mark)

iii. uniform acceleration

(2 mark)

iv. throwing an object from land to upwards and coming to land again

(2 mark)

v. B

(1 mark)

**(20 mark)**

8. A. i. divide cell to produce new cells

(1 mark)

ii. a - mitosis b - meiosis

(2 mark)

iii. suitable answer

(2 mark)

iv. as a asexual reproduction to build up body healing of wounds

(2 mark)

v. meiosis

(1 mark)

vi. increasing dry mass or amount irresiblly

B. i. 3<sup>rd</sup> law of neutron

(1 mark)

ii. action - apply a force from balloon to air.

Reaction - apply a force from air to balloon

(2 mark)

iii.

iv. velocity is O

(2 mark)

v. weight, gravitational force

(1 mark)

vi. gravitational acceleration ( $10\text{ms}^{-2}/18\text{ms}^{-2}$ )

viii. elasticity

9. A. i. M

(1 mark)

ii. U

(1 mark)

iii. correct answer

(2 mark)

iv. fill electrons in last shell

(2 mark)

v. T

(1 mark)

vi. liquified

has a blue flame

bad smell

(1 mark)

vii. L, M

(2 mark)

viii. carbon, silicon

(1 mark)

B. i. displacement in a unit time

(2 mark)

ii. suitable answer

(2 mark)

iii. Correct

(2 mark)

iv. moving a car

(2 mark)

v. mass and velocity

(2 mark)