

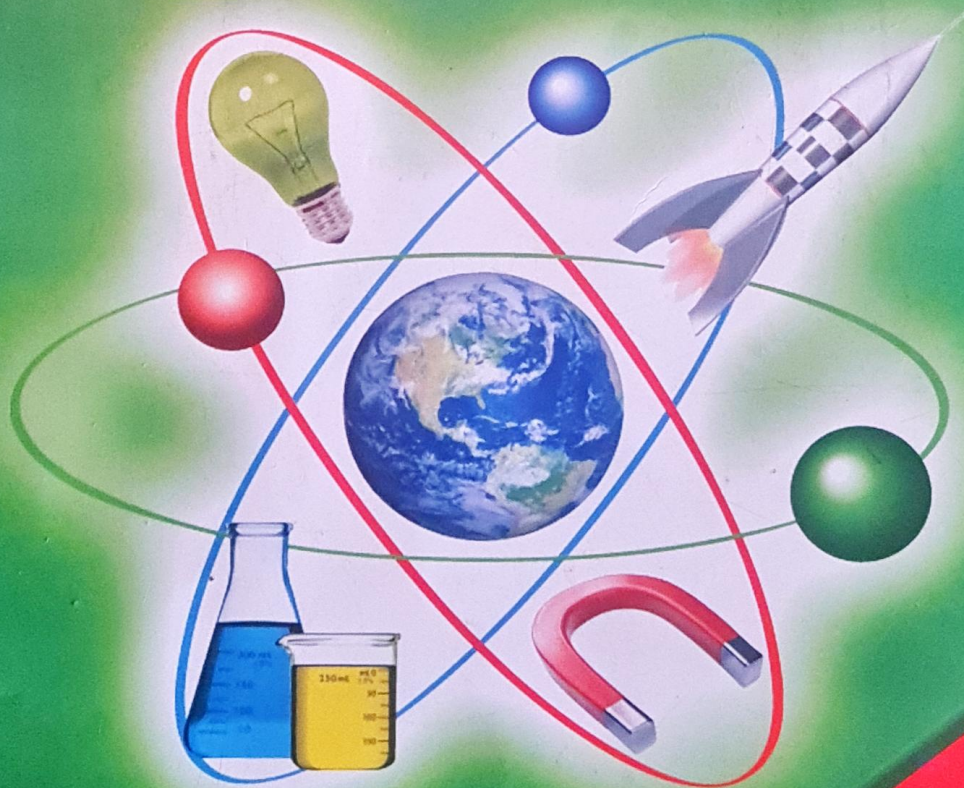
Somaliland National Examination & Certification Board



# SCIENCE

Workbook with Keys

For Primary Students



**BBS**  
BAABUSALAAM  
General Trading Company

2019  
Second Edition



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## Unit 1. Health Education

### 1.1. Multiple choice questions

1. Transmitted diseases are mostly caused by: 2008
- ☒ A. Small living things (Microorganisms)
  - ☐ B. Non-living things
  - ☐ C. Large living things
  - ☐ D. Excess eating
2. The central nervous system consists of 2009
- ☐ A. Brain and nerves
  - ☒ B. Brain and spinal cord
  - ☐ C. Spinal cord and neurons
  - ☐ D. Spinal cord only
3. Malaria is a disease caused by a parasite called? 2010
- ☐ A. Mosquito
  - ☒ B. Plasmodium
  - ☐ C. Worms
  - ☐ D. Bacteria
4. Which one of the following diseases results from influenza if not treated? 2011
- ☐ A. Tuberculosis
  - ☐ B. Malaria
  - ☒ C. Pneumonia
  - ☐ D. Gonorrhea



5. The virus that causes AIDS weakens

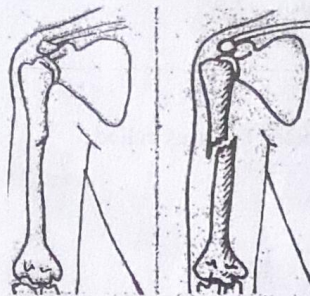
2011

- ☒ A. Immunity
- B. Digestion
- C. Excretion
- D. Response

6. The broken bone is called :

2012

- A. Contracted bone
- B. Stretched bone
- ☒ C. Fractured bone
- D. Bending bone



Broken bone types

7. AIDS is dangerous sickness. It can be transmitted by:

2012

- A. Touching
- B. In haling
- ☒ C. Intercourse
- D. Eating together

8. Which one of the following is NOT Endoparasite?

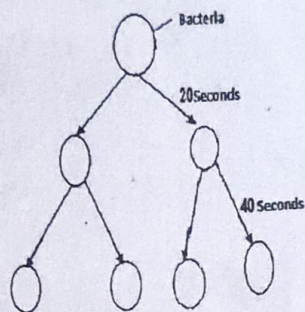
2013

- A. Tape worm
- B. Round worm
- C. Ameba
- ☒ D. Ticks



2013

9. If each Bacteria divides into a two every 20 minutes  
How many bacteria will be formed after two hours?



- A. 16  
B. 18  
C. 32  
☒ D. 64

10. An AIDS disease is caused by virus called

2013

- A. AIDS  
☒ B. HIV  
C. SIV  
D. Bacteria

11. Typhoid is known as water-borne disease and for the first week the fever of infected  
people rises each day about:-

2014

- ☒ a.  $0.5^{\circ}\text{C}$   
b.  $0.6^{\circ}\text{C}$   
c.  $0.7^{\circ}\text{C}$   
d.  $0.8^{\circ}\text{C}$

12. Praziquantel is an effective drug against

2014

- a) Meningitis  
☒ b) Bilharziasis  
c) Malaria  
d) Influenza



13. Which one disease are sexual transmitted disease: 2016

- a) Cough
- ☒ b) Syphilis
- c) Asthma
- d) Anemia

14. Gonorrhea disease is caused by a bacteria called: 2016

- ☒ a) Neiseria
- b) Treponema
- c) Fungi
- d) Virus

15. People who smoke a lot may be suffered: 2016

- a. Asma
- ☒ b. Cancer
- c. Typhoid
- d. Ebolla

16. One of the symptoms of Gonorrhea is: 2017

- a. Cool and no irritating
- b. Urine passed easy
- c. Headache
- ☒ d. Burning irritating feeling when passing urine

17. Syphilis is a disease caused by a bacteria called: 2017

- a. Neisseria
- ☒ b. Treponema
- c. Fungy
- d. Palladium

$$\begin{array}{r} + 20 \\ 2 \\ \hline 40 \\ + 2 \\ \hline 42 \end{array}$$



2017

18. AIDS is a disease caused by:

1. HIV Virus
2. HVI Virus
3. SIV Virus
4. Bacteria

### 1.2. Structured Questions

2014

1. Answer these questions.

a) Define dehydration.

is the loss of water and other nutrients of the body

b) How to prevent dehydration.

drinking a lot of water

c) List the signs of severe dehydration?

little or no urine, dry mouth, sunken tearless eyes

d) Explain how to prepare Oral Rehydration Solution (Salt ORS)

fill bottle with clean water then mix in teaspoon of salt and 6 teaspoon of sugar.

2. Mentions three symptoms of gonorrhea.

2016

- a) frequent painful urination
- b) Burning, irritating feeling when passing urine
- c) Thick yellowish pus discharge after

3. Enlist three factors which cause the spread of AIDS?

2017

- a) lack of information
- b) low awareness
- c) migration and population mobility



4. Name the organism that causes syphilis and gonorrhea 2017

- a) Syphilis = Treponema pallidum  
b) gonorrhea = Neisseria gonorrhea

5. Write down two main symptom of Gonorrhea: 2017

- a) Burning  
b) irritating

6. Give an explanation about three problems of Alcoholism 2017

- a) Break family apart  
b) health problem  
c) economic problems

7. State briefly four main symptoms of HIV/AIDS 2017

- a) Fatigue / tired  
b) cancer of blood vessels  
c) low immune system  
d) skin rash

8. a) Define the following terms 2018

- i. Bacteria  
is a very small organism  
ii. Virus  
are infectious agent which replicate inside some living things  
iii. AIDS  
is a deadly disease in the STD category.



1. do not share needles
2. all blood transfusion should be screened
3. avoid sexual contact
4. married couple should be faithful to each other
5. Not sharing supplies with group of ppl
6. Cover cuts
7. should be tested before getting married

## 2014

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be from a notebook or a standard sheet of stationery.



## Unit 2. Water

### 2.1. Multiple choice questions

1. The root hair increase:

2006

- A. Photosynthesis
- ☒ B. Water absorption
- C. Respiration
- D. Fertilization

2. Which one of the following does not affect loss from a tree

2007

- A. Temperature
- B. Wind
- C. Humidity
- ☒ D. Photosynthesis

3. Autumn begins and finishes

2012

	Begins	Finishes
A	December	March
B	April	June
C	June	September
<input checked="" type="radio"/> D	October	November



4. Water in the earth's surface is estimated:-

2014

- a) 50%
- ☒ b) 70%
- c) 25%
- d) 75%

5. The best method to stop sand- dune formation is:-

2014

- ☒ a) To plant cactus trees in the area.
- b) Sand dune fixation
- c) To spray water on the area.
- d) To plant ever green grass in the area

6. Producing electricity from water depends on:-

2014

- a) Water coming from a low level source.
- b) Water from leveled source to a leveled area.
- ☒ c) Water falling from high level source.
- d) Stagnant water.

7. The best method to obtain water free from germs is:-

2014

- a) Cooling.
- b) Filtration.
- ☒ c) Chlorination.
- d) Boiling.

8. Water pollution is dangerous to:-

2014

- a) Fish only.
- ☒ b) All living things.
- c) Amphibians only.
- d) Human and animal life only.



9. About \_\_\_\_\_ of the earth's surface is covered with water: 2017

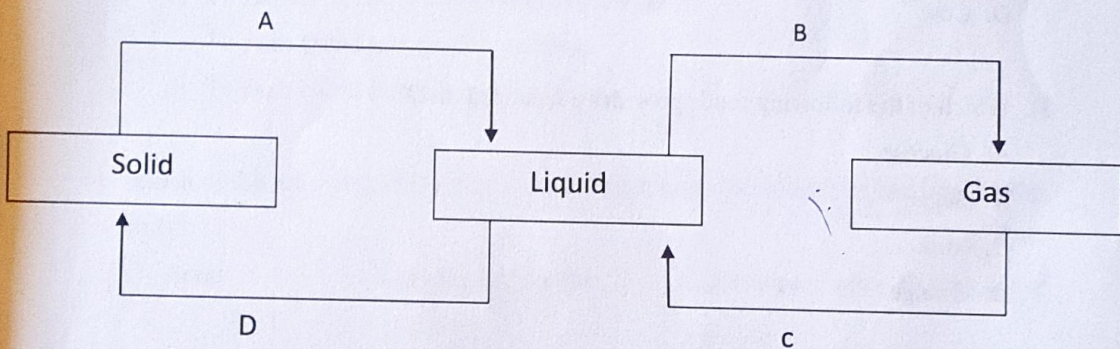
- a) 60%
- b) 80%
- c) 90%
- (d) 70%

10. Which one of the following causes a water pollution: 2017

- (a) Waste disposal to the water
- b) Fish farming in water
- c) Pollution of weather
- d) Taking water from the lakes

## 2.2. Structured questions

I. Name each change of state in the diagrams below 2010



- A. melting
- B. boiling

- C. condensation
- D. freezing

1. List four economical usage of water other than (domestic and animal use) 2014

- 1) for fish farming
- 2) hydroelectric power generation
- 3) extraction of salt from the sea
- 4) agacultural use



## Unit 3. Animals

### 3.1. Multiple choice questions

1) Which of the following statements is wrong?

2006

- A. Vertebrates have backbone
- B. Fishes breathe through gills
- C. Female frog lays numerous eggs
- ☒ D. Reptiles fly in the air

2) Which of the following is not a vertebrate?

2006

- A. Frog
- B. Cat
- ☒ C. Earthworm
- D. Cow

3) Which of the following foods provides a balanced diet?

- A. Glucose
- B. Sugar
- ☒ C. Milk
- D. Orange

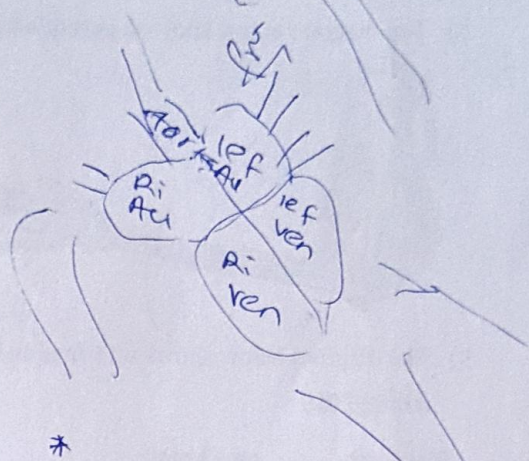
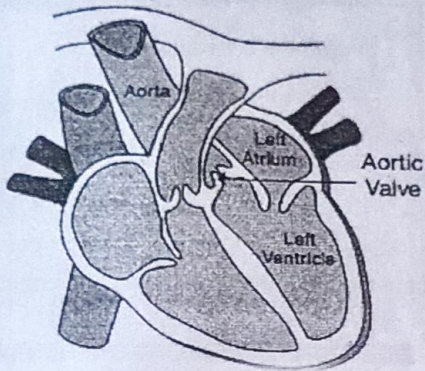
4) Fusion of male gametes cells and female gamete cells is called:

2008

- A. Breathing
- ☒ B. Fertilization
- C. Excretion
- D. Organ system



5) The diagram below shows a human heart



When contracted, the left ventricle pumps oxygenated blood to the body. What is the purpose of aortic valve that separates the left ventricle from the aorta?

2009

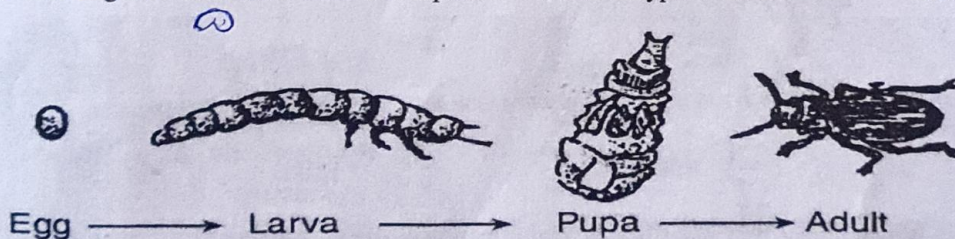
- a) To prevent blood from flowing back into the left ventricle
  - b) To prevent blood from flowing into the aorta
  - c) To push blood into the left ventricle
  - d) To push blood into the aorta
- 6) Which of the following is the blood vessel that transports blood from the heart to the body?

2010

- a) Aorta
- b) pulmonary aorta  
↓  
lungs
- c) pulmonary vein  
↓  
lungs
- d) vena cava

7) The diagram below shows the development of a certain type of insect.

2010



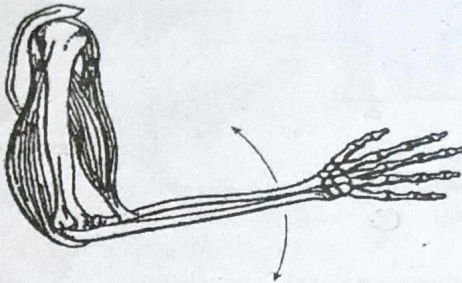
This diagram shows the process of

- a) Metamorphosis
- b) fertilization
- c) selective breeding
- d) environmental change



- 8) The diagram below shows a part of a human body system.

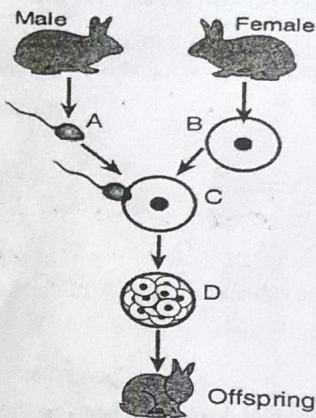
2010



The possible movement by the arrows in the diagram is coordinated by the

- A. Circulatory system
- B. Excretory system
- ☒ C. Nervous system
- D. Reproductive system

- 9) The diagram below shows information about the reproduction and development of a rabbit. 2010



Which letter in the diagram represents fertilization?

- A)                      B)
- C)                      D)

- 10) The diagram below shows two-different organisms, a dog and a cat. 2010



Dog

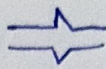


Cat

Which phrase best describes the classification of the two organism?

- A) Same kingdom, same species
- B) Different kingdoms, different species
- ☒ C) same kingdom, different species
- d) different kingdoms, same species





11) Protein digestion starts in the

2011

- a) Mouth
- ☒ b) Stomach
- c) Small intestine
- d) Gall bladder

12) How many chambers does the human heart have?

2011

- a) Six
- b) Eight
- ☒ c) Four
- d) Two

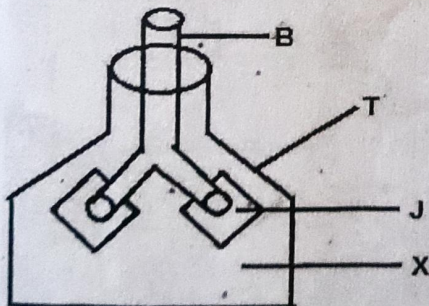
13) Frog's egg fertilization takes place in the

- a) Terrestrial land
- ☒ b) Water
- c) Frog
- d) Air



14) The diagram below describes the human respiratory system.

Which letter represents the lung?



- a) B
- b) T
- ☒ c) J
- d) X



2011

15) The formation of all organs of the human foetus are completed in the

- a) Ninth month
- b) Second month
- c) First month
- d) Third month

16) All the fishes lay eggs in their reproduction system, the type name "Cod" lay eggs of about :

2012

- A. 5 – 7 million
- B. 6 – 7 million
- C. 4 – 5 million
- D. 5 – 6 million

17) The gas exhaled from lungs is called

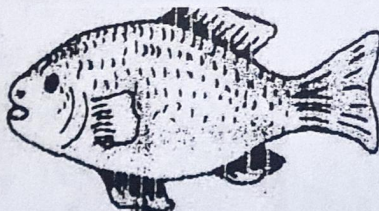
2012

- A. Oxygen
- B.  $\text{CO}_2$
- C. Hydrogen per oxide
- D. Nitrogen

18) Fish gaseous exchange takes place

2013

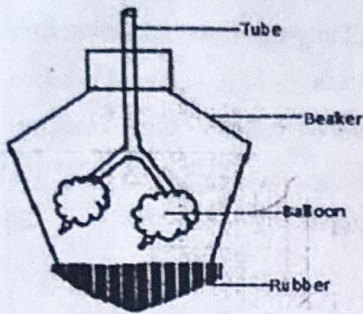
- A. Mouth
- B. Skin
- C. Gills
- D. Lungs





19) The diagram shows bellow illustrates human respiratory system

2013



Which section of the diagram represents the lungs?

- a. Beaker
- ☒ b. Balloon
- c. Rubber
- d. Tube

20) Arteries carry oxygenated blood from the:

2013

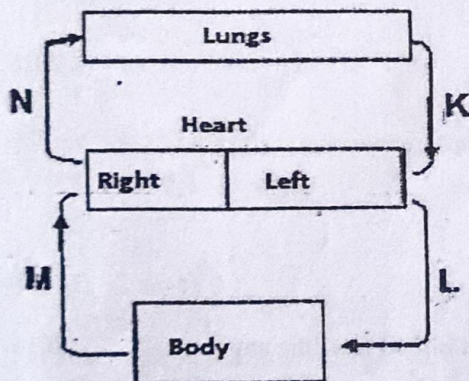
- ☒ a. Left ventricle of the heart
- b. Right ventricle of the heart
- c. Left atrium of the heart
- d. Right atrium of the heart



21) The diagram below shows the human blood circulation

2013

From the diagram the blood pressure is highest at the regions of :



- A. K and L
- ☒ B. N and L
- C. K and M
- D. M and N



- 22) Which one of the following sequences about the digestion are in correct order starting from mouth? 2013
- |   |                 |                 |                 |
|---|-----------------|-----------------|-----------------|
| A. Esophagus                                  | small intestine | Stomach         | Large Intestine |
| B. Stomach                                    | Esophagus       | Small intestine | Large intestine |
| C. Esophagus                                  | Large Intestine | Stomach         | Small intestine |
| <input checked="" type="radio"/> D. Esophagus | Stomach         | Small intestine | Large intestine |
- 23) The entering of a sperm cell into an egg cell is called 2013
- A. Germination
  - ☒ B. Fertilization
  - C. Pollination
  - D. Fermentation
- 24) The largest excretory organ of the human body is the 2013
- A. Kidney
  - B. Lungs
  - C. Liver
  - ☒ D. Skin
- 25) Tadpoles breath through their : 2016
- a) Nose
  - b) Mouth
  - ☒ c) Gills
  - d) Skin
- 26) \_\_\_\_\_ is where the foetus receives it is food from the mother: 2016
- a) Veins
  - ☒ b) Placenta
  - c) Intestines
  - d) Stomach



27) The foetus is fully formed when:

2016

- a) Five months end
- b) Four months end
- c) Six months end
- ☒ d) Three months end

28) \_\_\_\_\_ is where the fetus receives its food from the mother:

2017

- a) The spinal cord
- ☒ b) The placenta
- c) Mouth
- d) Nose

29) How many bones does the human skeletal system has:

2017

- a) 106
- b) 306
- ☒ c) 206
- d) 602

30) Which one of the following carries blood from the heart to the different parts of the body:

2018

- ☒ a) Aorta
- b) Artery
- c) vein
- d) valve

31) Which organ helps fish to breathe in water?

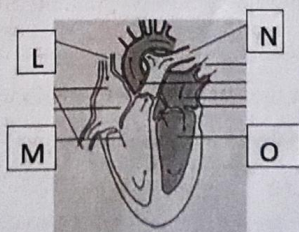
2018

- a) Mouth
- b) Nose
- ☒ c) Gills
- d) Lungs

32. Which arrow indicates a tricuspid valve?

2018

- a) L
- ☒ b) M
- c) N
- d) O



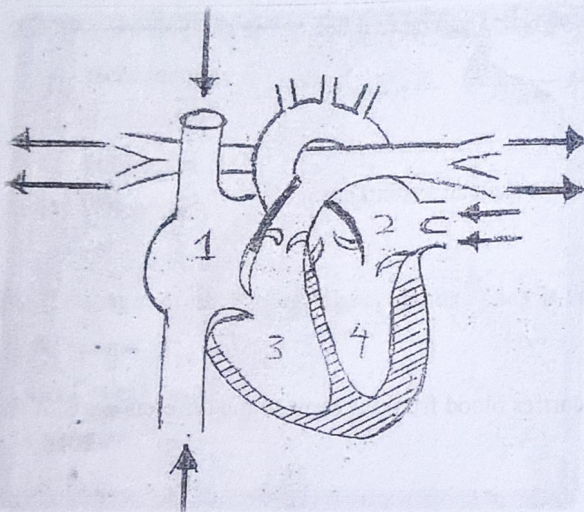


33. Which one of the following is the largest organ for excretion in human being: 2018

- a) Kidneys
- b) lungs
- c) liver
- d) skin

### 3.2. Structured questions

1) Study the diagram below and answer the following questions 2006



- (i) Write the four chambers of the heart
  - a) right atride
  - b) lial atride
  - c) right ventricat
  - d) left ventriond
- (ii) Identify the blood vessel that carries blood away from the right ventricle to the lungs?  
pulmonary artery
- (iii) Which side of the heart pumps the deoxygenated blood?  
right side
- (iv) Which structures prevent the back flow of the blood?  
atria ventricular valves and aortic valves  
prevent the backflow of the blood



(v) Compare veins and arteries

- a) vein..... collect blood from parts of the body to the heart  
b) arteries..... carry blood from heart to other parts of the body.

2) State two ways in which fertilization occur generally

2009

- i. internal fertilation  
ii. external fertilation

3) Complete the following

2009

	Shape	Function
Red cells	Biconave disc.	Their functions is to transport oxygen through whole the body.
White cells	Spherical or round shaped	Their function is to fight against germs.

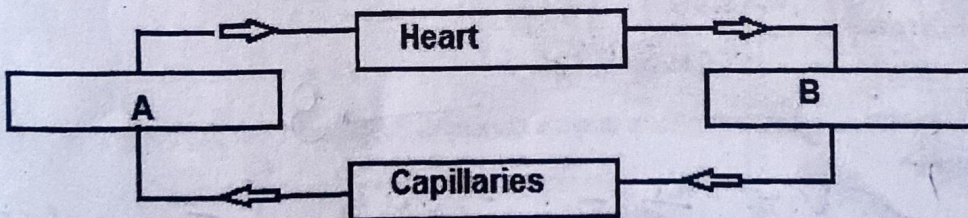
4) State any three characteristics that living organisms differ from non-living organisms?

2010

- a. breathing or respiration  
b. nutrition taking in food  
c. irritability, sencitivity or response

5) The diagram below shows blood circulatory system.

2011



a) Name the blood vessels represented by the letters

- A. veins veins  
B. arteries arteries



b) State the blood vessel that carries oxygenated blood from heart.

aorta

c) State the blood cell which

- i. Carry oxygen red blood cells
- ii. Defend germs from the body white blood cells
- iii. Make blood clotting when there is a wound in the human body platelets

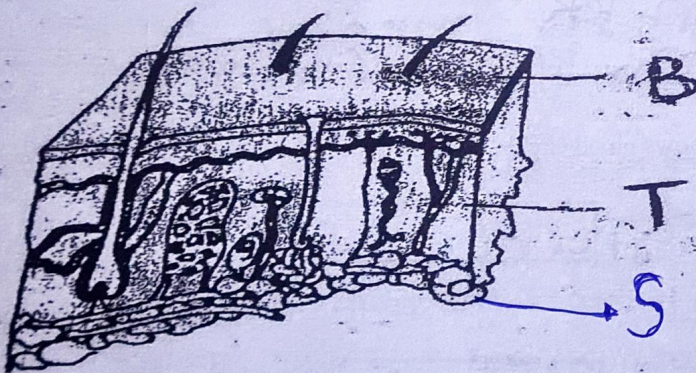
6) Use word from the table below to fill in the column of organs in the given table

2011

Kidney	Lung	Skin
	Organ	Waste excreted
1		Urine
2		Carbon dioxide
3		Sweat

7) The diagram below shows the structure of the skin.

2012



a) Name the skin layers that stands the letters on the diagram

A epidermis

B dermis



b) Write any three functions of the functions of the skin

I. ....

II. ....

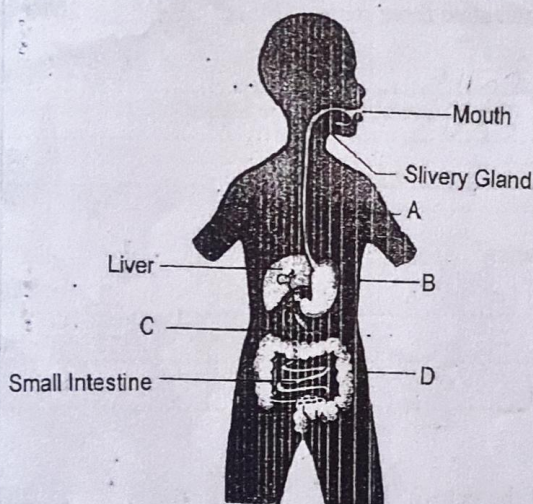
III. ....

c) Where does the sweat excreted in the skin

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

8) The diagram bellow , shows human digestive system

2013



A. Name the digestive organs in which letter A to D represents

A.....

B.....

C.....

D. large intestine.....



B. What is the function of the organs B and D?

B.....  
D.....

C. State two functions of

(i) Liver:

1. Helping with digestion
2. Producing body heat

(ii) Small intestine:

1. ....
2. ....

9) a) Blood is a red fluid called plasma: state three parts of blood

2016

- i) Red ~~do~~ blood cells
- ii) white blood cells
- iii) Platelets

b) Name three types of blood vessels:

- i) Arteries
- ii) Veins
- iii) Capillaries

10) a) Explain briefly the functions of the veins?

2016

.....  
.....

b) Name the smallest blood vessels of human body?

.....



11) a) State all the excretory organs of human body?

.....  
.....

b) What is an excretion?

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

12. a) Define a fish? Where they reproduce?

2016

During season

.....  
.....

b) What are the two types of fish?

i) Bony fish

ii) Cartilaginous fish

13. State two main functions of the skeletal system

2017

a. Support

b. Protection



## Unit 4. Plants and ecology

### 4.1. Multiple choice questions

2006

1) One main function of a root of the plant to:

- A. Absorbs sunlight from the sun
- B. Stores chlorophyll
- C. Anchor the plant to the ground
- D. Make food for the plant

2) The process by which the plants make their own food is called:

2006

- A. Chlorophyll
- ☒ B. Photosynthesis
- C. Respiration
- D. Digestion

3) Which of the following substances is very important for the Photosynthesis process to take place?

2006

- A. Hydrogen
- B. Nitrogen
- C. Carbon- dioxide
- D. Sulphuric Acid

4) The process by which the plants reproduce themselves is called?

2006

- ☒ A. Reproduction
- B. Evaporation
- C. Absorption
- D. Photosynthesis



- 5) The food formation organ of the tree is the: 2006
- Roots
  - Stem
  - Leaves
  - Branches
- 6) Which one of the following is not a wind pollinated flower? 2007
- It does not have petals
  - It does not have scent
  - It produces light pollen grains
  - It has sticky stigma
- 7) Which one of the following is not a tap root? 2007
- Bulbs
  - Tubers
  - Leaves
  - Corms
- 8) Leaves does not involve the following functions: 2007
- Organ of food production
  - It takes part in the respiratory process of the plant
  - It supports the plant
  - It causes the transpiration or loss of water from the tree
- 9) During the germination of seeds above the soil (through the soil) 2007
- Cotyledon grows upward through the soil
  - Cotyledon grows downward under the soil
  - Cotyledon does not need soil
  - Cotyledon needs to have a dry Soil



- 10) The amount of light \_\_\_\_\_ the rate of photosynthesis 2008
- Decreases
  - Stops
  - Increases
  - Not changed
- 11) Living things that produce their own food are called 2008
- Tertiary consumer
  - Secondary consumer
  - Primary consumer
  - Producer
- 12) The fusion of the nucleus of pollen grains and eggs cell is called? 2009
- Pollination
  - Fertilization
  - Germination
  - Insemination
- 13) After the fertilization, the ovary develops into 2009
- Fruit
  - Seed
  - Leaf stalk
  - Leaf
- 14) Which of the following plants could have tap roots? 2009
- Carrot
  - Grass
  - Onion
  - Millet



15) Which of the following is the process by which plants produce their own food? 2010

- a. Transpiration
- b. Respiration
- c. Photosynthesis
- d. Nutrition

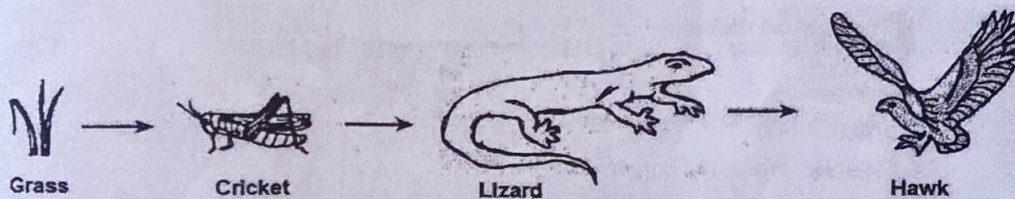
16) Which of the following transport water and Minerals to the Plant?

2011

- A. Leaves
- B. Stem
- C. Flowers
- D. Roots

17) The diagram below shows a food chain

2011



If the crickets die

- A. The grass will increase
- B. The lizard will increase
- C. The hawk will increase
- D. a) and c) are correct

18) The part of the flower that becomes fruit is the

2011

- A. Stigma
- B. Style
- C. Ovary
- D. Egg



19) Which the one of the following are the male reproductive organs of the flower? 2011

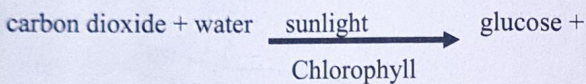
- a. Stigma , style and ovary
- b. Anther and filament
- c. Ovary and anther
- d. Stigma, anther and ovary

20) Living things that eat primary consumer are called:

2012

- A. Producers
- B. Tertiary
- C. Primary consumers
- D. Secondary consumers

21) Photosynthesis occurs in day light. The equation for photosynthesis is as follows



- A. Carbon dioxide + Water
- B. Water + Oxygen
- C. hydrogen + Oxygen
- D. Water + Oxygen

22) Living things that are known as producers are:

2013

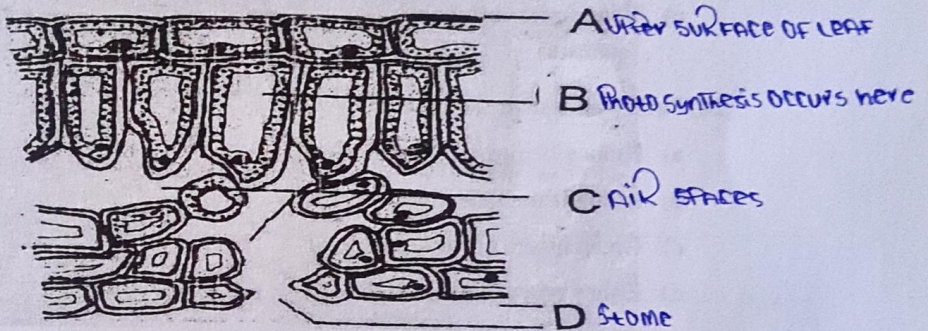
- A. Plants
- B. Animals
- C. Insects
- D. Germs



23) Figure below shows some parts of flower. The anther of the flower is 2013



24) The diagram below shows transverse section through the leaf. In which layer cells do all photosynthesis occurs? 2013



25) The diagram below shows a simple food chain 2013



The primary consumer of this food chain is

- A. Worm
- B. Grass
- C. Hawk
- D. Cater pillar



26) Addition of more light energy on photosynthesis causes to:

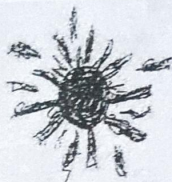
- a. Decrease the speed of photosynthesis
- b. Increase the speed of photosynthesis
- c. Does not affect the process
- d. Stop the reaction

2014

27) Which one of the following seeds disperses through explosion method.

2014

- a) A
- b) B
- c) C
- d) D
- e) None



A



B



C



D

28) Photosynthesis is the process by which:

2017

- a) Human beings stored their food
- b) Animals manufacture their food
- c) Green plants manufacture food
- d) Fishes produce their food

29) Photosynthesis doesn't occur unless it has:

2017

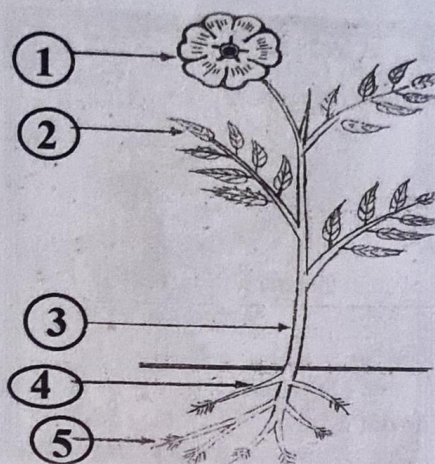
- a) Oxygen
- b) Nitrogen
- c)  $\text{CO}_2$
- d) Carbon



## 4.2. Structured question

1. Study diagram below

2006



Label the parts illustrated or showed by the arrows and state their functions:

	(a)	(b)
	Main parts of plant	their functions
1		
2		
3		
4		
5		



2) a) state three functions of roots

2007

- a. ....
- b. ....
- c. ....

b) Write down two types of roots

- i) ....
- ii) ....

3) (a) state one type of stem that manufactures food

2007

- i) ....

4) what is the function of the following

2007

- I. Epidermis.....
- II. Endoderm.....
- III. Xylem.....

5) Study the following food chain and answer the questions below:

2008

Grass → Insect → Lizard → Hawk

a) Name organisms in each trophic level

- I. Producers .....
- II. Primary consumer .....
- III. Secondary consumer .....

b) Define food chain

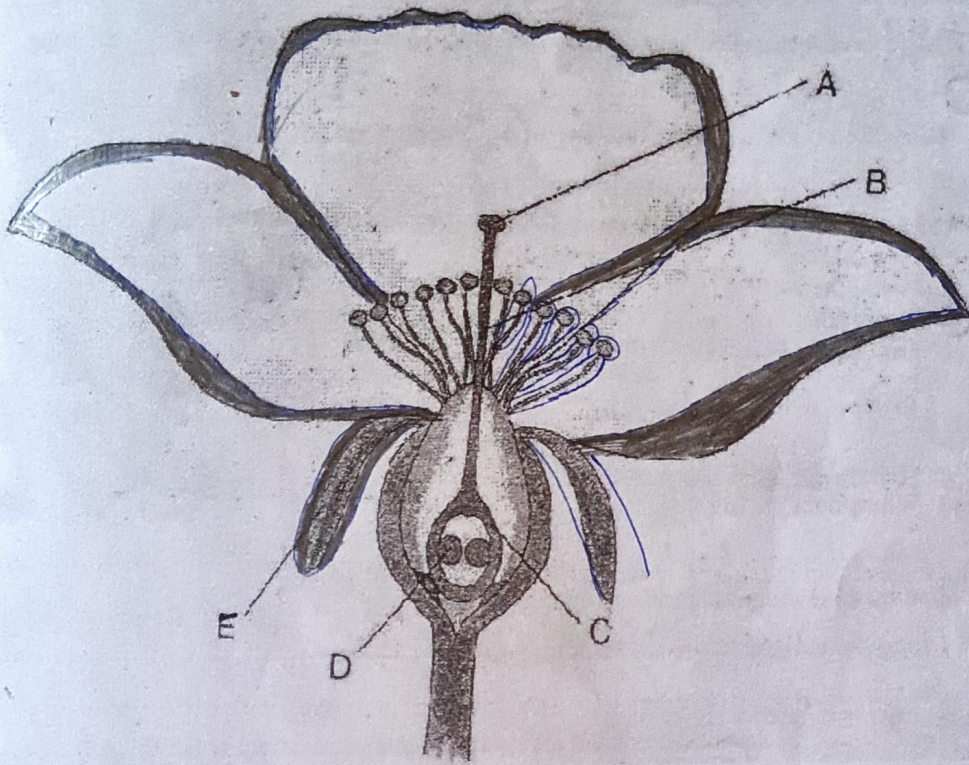
2008

.....  
.....



6) The figure below shows the parts of a flower

2008



Name the part labeled in spaces provided

- A) .....
- B) .....
- C) .....
- D) .....
- E) .....



7) A) Define germination of seeds?

2008

B)state three factors that help develop (influence) germination of seeds:

2008

I. ....

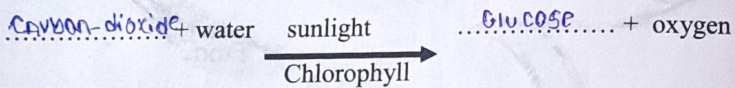
II. ....

III. ....

8) A) name the process by which plants produce their own food

2008

B)complete the following formula about photosynthesis



c) Where does photosynthesis take place?

9) Mention three things that cause seed dispersal

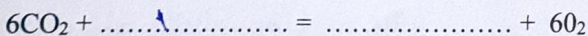
i. ....

ii. ....

iii. ....

10) Complete the following equation which summarizes photosynthesis

2009



11) Write the important functions of the stem

2009

i. ....

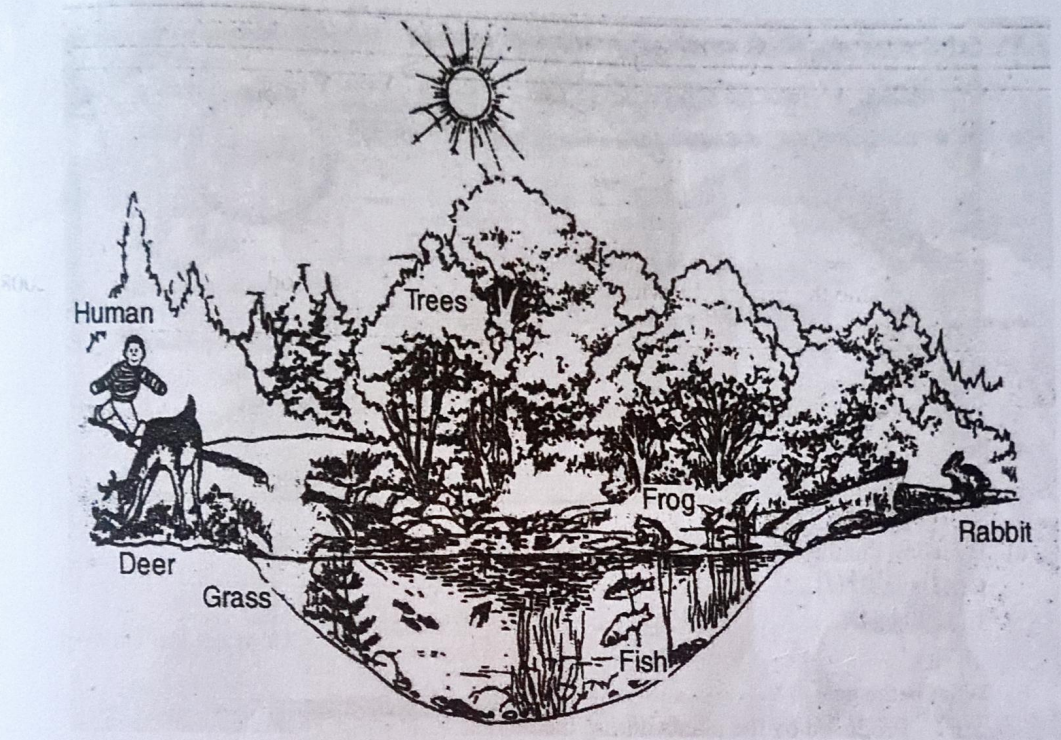
ii. ....

iii. ....



12) Wood land and pond ecosystem is illustrated below

2010



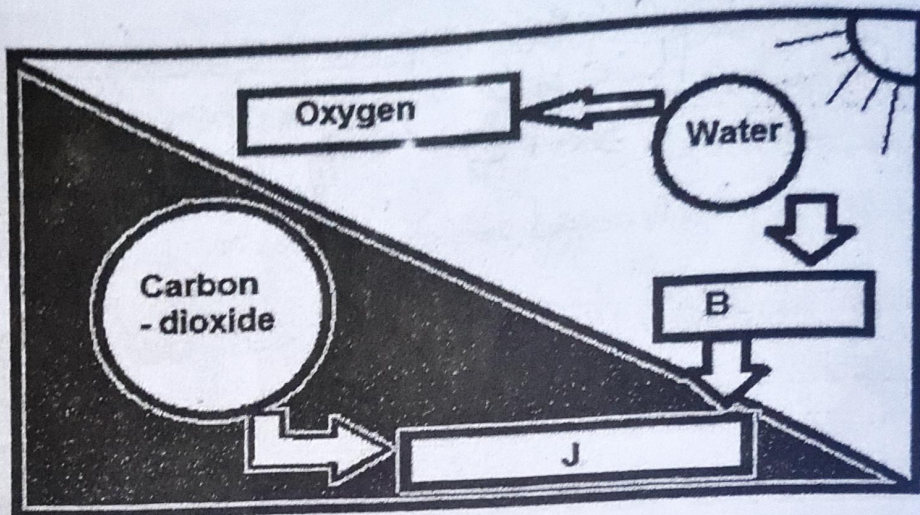
- a. What is the main source of energy for these ecosystems?  
.....
- b. Identify two consumers in these ecosystems?  
.....  
.....
- c. Identify one organism in these ecosystems that produces chlorophyll?  
.....

13) Name three conditions that are necessary for the germination of seeds? 2011

- I. ....
- II. ....
- III. ....



14) The diagram below shows the stages (phases) of photosynthesis



a) By using the diagram name the substance represented by the letters

B... Hydrogen  
J... Sugar

b) What is the gas

i. Produced by the plants during the day?

.....

ii. Produced by the plants at night?

.....  
.....

15) Photosynthesis is the process by which plants make their own food.

2012

1. What is mean by the term "photo"?

means light

2. What is mean by the term "Synthesis"

means build up

3. Name the food that is produced by the process of photosynthesis

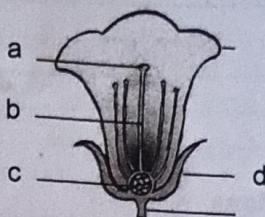
.....



16) The figure below shows the parts of the flowers?

2016

- a) Stigma  
b) Style  
c) Ovary  
d) .....



17) State three methods that cause the seed dispersal?

2016

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

18. a) Name two functions of the root.

2016

- i) .....  
ii) .....

b) What is a tap root?

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

19. In order the seeds to germinate. It needs three conditions? State and explain the three conditions?

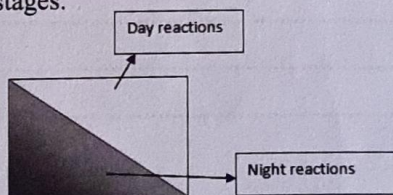
- a) .....  
b) .....  
c) .....

20. Photosynthesis occurs in two stages.

2018

Stage 1 (light reaction)

Stage 2 (dark reaction)





Briefly explain the chemical reactions that

1. Explain the process of pollination

- Meaning of pollination
- Types of pollination
- Elements that helps pollination process

This image shows a single sheet of white paper with horizontal dotted lines, similar to standard notebook paper. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.



## Unit 5. Sound

### 5.1. Multiple choice questions

1. The ear is divided into three parts called:

2006

- a. The outer ear, Middle ear, inner ear
- b. The middle ear, inner ear, eardrum
- c. Hammer, eardrum, outer ear
- d. Outer ear, hammer, inner ear

2. Sound is a form of:

2006

- A. Work
- ☒ B. Energy
- C. Force
- D. Motion

3. Sound is fastest in.

2008

- a. Liquid
- b. Gas
- ☒ c. Solid
- d. Vacuum

4. Sound waves can travel through

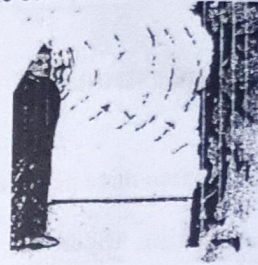
2011

- a. liquid
- ☒ b. air
- c. Vacuum
- d. a and b



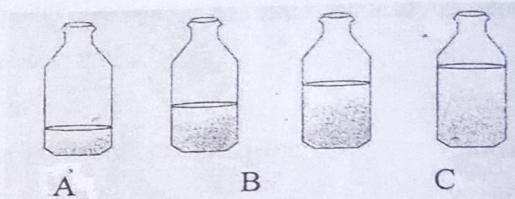
5. Mona shoats near a mountain, she hears the echo of her shoat. This echo is caused by 2013

- a. Refraction of sound
- b. Diffraction of sound
- c. Reflection of sound
- d. Interference of sound



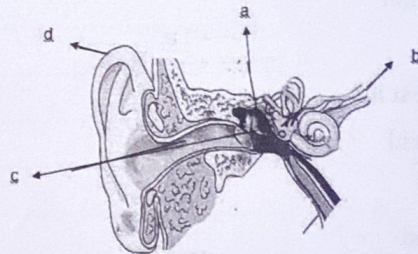
6. If you blew across the mouths of the following bottles, which one will produce the highest sound?

- a) A
- b) B
- c) C
- d) D



7. The figure below shows human ear. Name the part which indicate the eardrum 2016

- a)
- b)
- c)
- d)



8. An object produces sound when:

- a) heated
- b) Vibrate
- c) Expand
- d) Contract

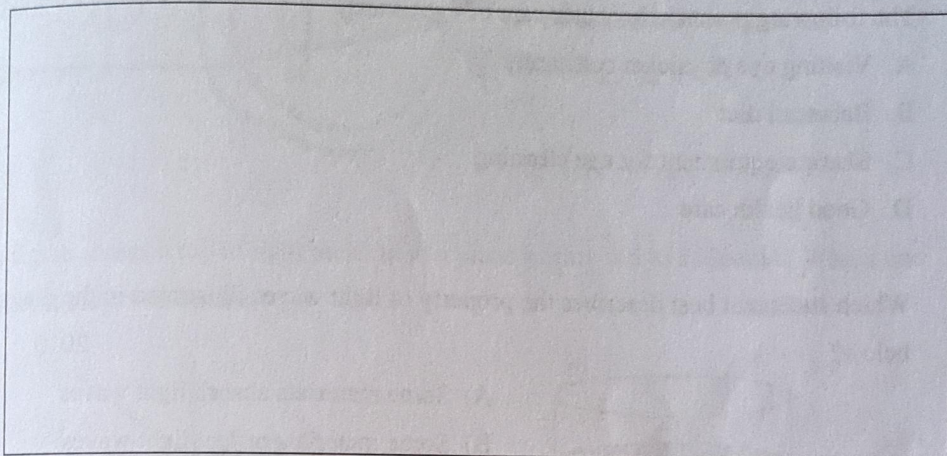
2016



### 5.1. Structured questions

1. Draw the diagram of a human ear and label the following parts: hammer, incus, stapes and drum.

2007



2. Use the words given below to complete the following sentences

2010

Solid	Energy	Medium	Particles	Vacuum
-------	--------	--------	-----------	--------

- a. Sound is a form of ..... Sound Energy ..... that is produced by vibrating objects.
- b. Sound is a mechanical wave, it cannot travel through .....  
It needs .....
- c. Sound travels fastest when it passes through....., because  
..... of solid are very close together.



## Unit 6. Light

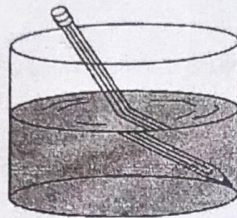
### 6.1. Multiple choice questions

1. The following points help health care of eyes except
- A. Visiting eye physician constantly
  - B. Balanced diet
  - C. Sharing equipment for eye cleaning
  - D. Good health care

2008

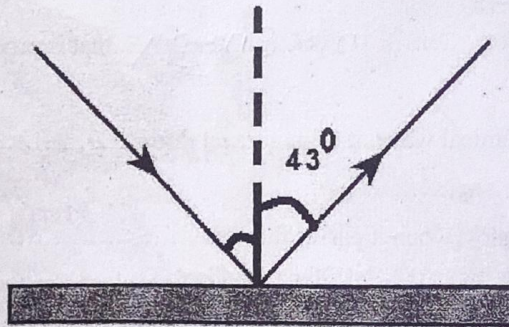
2. Which statement best describes the property of light waves illustrated in the diagram below?

2010



- A) Some materials absorb light waves
- B) Some materials reflect light waves
- C) Light waves are refracted by some materials
- D) Light waves are emitted by some material

3. The diagram below shows the reflection of light



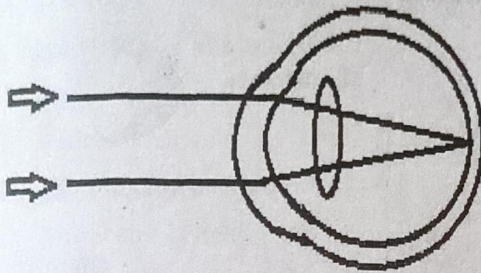
The angle of incident is

- A.  $86^{\circ}$
- B.  $47^{\circ}$
- C.  $133^{\circ}$
- D.  $43^{\circ}$



4. The diagram below shows two parallel light rays from

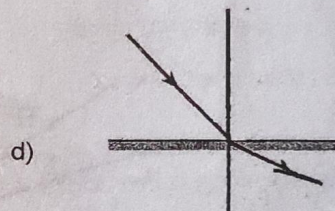
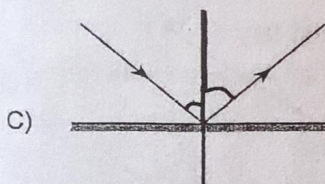
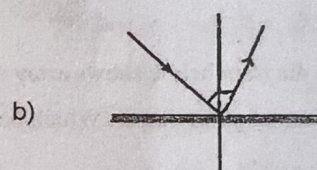
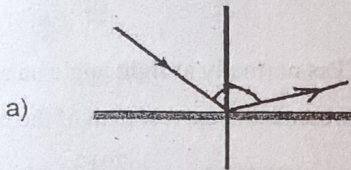
2011



- A. Near object
- B. Distant object
- C. Middle distance object
- D. All

5. The figure shows a ray of light incident to a plane mirror and its reflection. Which one represent the correct paths

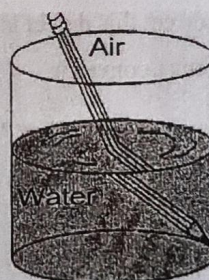
2012



6. The figure shows a pen immersed in water in a beaker. The pen seems bent. This is due to:

2012

- A. Reflection of light
- B. Refraction of light
- C. Dispersion of light
- D. Interference of light





7. Which of the following does not produce their own light

2012

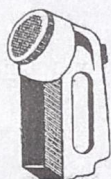
a) Sun



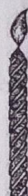
c) 'Moon



b) Torch

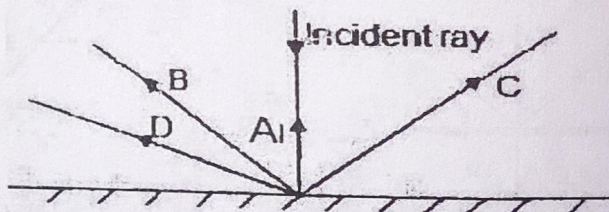


d) Candle



8. The diagram below shows array of light which strikes normally at right angle on a surface of plain mirror. Which better of the ray represents the correct path of the reflect ray.

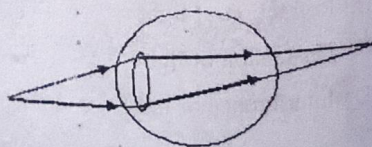
2013



9. The diagram below shows light rays entering the eye of the long sighted person. The suitable lens used to correct this defect is

2013

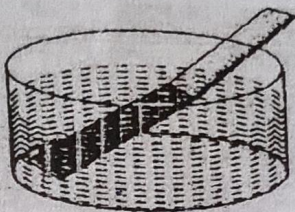
- A. Converging lens ( convex )
- ☒ B. Long lens
- C. Short lens
- D. Diverging lens





10. Ahmed puts a pencil partially in beaker full of water. The pencil to be bent where it is dipped in a water this caused by. 2013

- A. Refraction on light
- B. Reflection of light
- C. Transmission of light
- D. Diffraction of light



11. Which one of the following is not considered an eye disease 2014

- a) Trachoma.
- b) River blindness.
- c) Eye cataract.
- d) Toothache.

*a toothache is not considered an eye disease*

12. Short-sightedness is corrected by using: 2014

- ☒ a) Diverging lenses.
- b) Converging lenses.
- c) Combinations of diverging and converging lenses.
- d) Sun glass spectacles.

13. \_\_\_\_\_ is the dark brown, black, blue, or green colored part of the eye: 2017

- a. Cornea
- b. Pupil
- ☒ c) Iris
- d. Retina

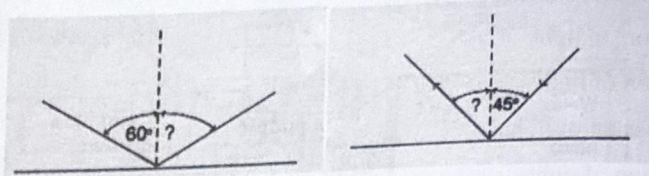
14. The seven colors of the rainbow from the top are:- 2018

- a) orange, yellow, green, blue, indigo, violet and red
- b) yellow, green, blue, indigo, violet, red and orange
- c) green, blue, indigo, violet, red and orange
- ☒ d) red, Orange, yellow, green, blue, indigo and violet



15. Find out the angle of reflection

2018



- a)  $60^{\circ}, 45^{\circ}$
- b)  $61^{\circ}, 46^{\circ}$
- c)  $62^{\circ}, 47^{\circ}$
- d)  $63^{\circ}, 48^{\circ}$

## 6.2. Structured questions

1. a. long sightedness can be corrected by ..... lens 2008  
b. Short sightedness people see very well..... Objects.
2. Use the words in the boxes to complete the sentences below 2011

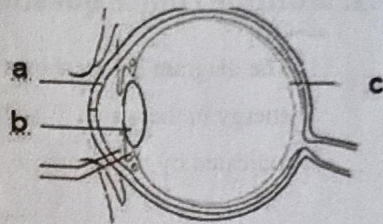
Incident ray	Reflected	Normal	Angle of incident	Angle of reflection

- a) When the light rays strike on a plane mirror the rays are reflected. The ray is reflected back is called .....
- b) ..... is the ray that strikes on the mirror
- c) The line that is perpendicular to mirror is called .....
- d) The angle between the perpendicular line and the incoming light ray is called .....
- e) The angle between the perpendicular line and the reflected light ray is called .....

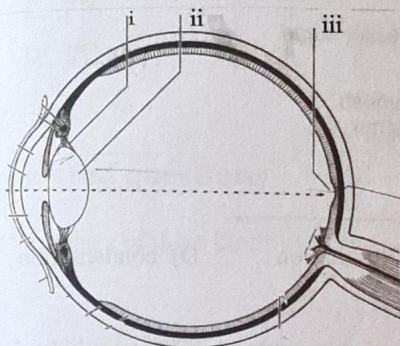


3. The diagram below shows the human eye. Name the parts labeled in to a, b, c 2016

- a) .....  
b) .....  
c) .....



4. a. Study the following diagrams 2018



Label the indicated parts of the human eye

- i. \_\_\_\_\_  
ii. \_\_\_\_\_  
iii. \_\_\_\_\_

- b) Sometimes the ciliary muscles contract

- i) When do they contract?

.....  
.....

- ii) Why do they contract?

.....  
.....

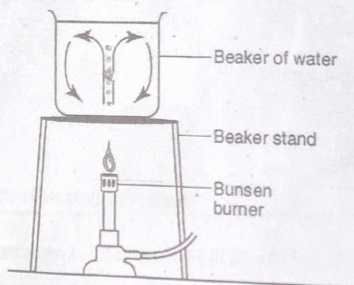


## Unit 7. Heat

### 7.1. Multiple choice questions

1. The diagram below shows water being heated. The arrows represent the transfer of heat energy in the water. Which process is primarily responsible for the transfer of heat indicated by the arrows in the beaker of water?

2010



- A) conduction      B) convection      C) radiation      D) condensation

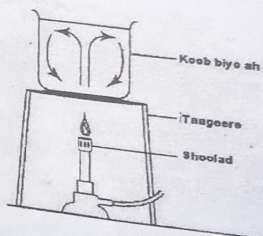
2. Water at  $20^{\circ}\text{C}$  in an uncovered pan is evaporating very slowly. What could be done to the water to make it evaporate more quickly?

2010

- a) Cover it  
b) Heat it  
c) Place it in the dark  
d) Put salt in it

3. Asha is heating water as shown in the figure. The heat of the fire reaches the top layer of water by:

2012



- A. Conduction  
B. Radiation  
C. Convection  
D. Evaporation



4. The temperature that pure water freezes is

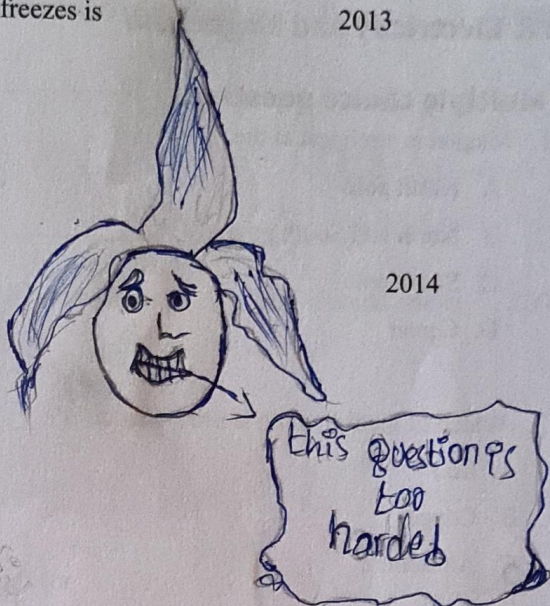
2013

- A.  $100^{\circ}\text{C}$
- B.  $-10^{\circ}\text{C}$
- C.  $0^{\circ}\text{C}$
- D.  $4^{\circ}\text{C}$

5. 32 F is equivalent to

2014

- A.  $0.5^{\circ}\text{C}$
- B.  $0^{\circ}\text{C}$
- C.  $1^{\circ}\text{C}$
- D.  $2^{\circ}\text{C}$



7.2 structured questions

1. Write the names of three kinds of stoves

2008

- I. ....
- II. ....
- III. ....

2. when a substance is heated three things can happen, name the three things

2017

- i. ....
- ii. ....
- iii. ....



## Unit 8. Electricity and Magnetism

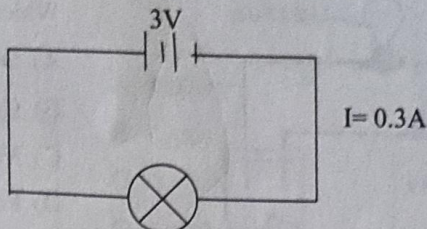
### 8.1. Multiple choice questions

1. Magnet is strongest at the: 2006
  - A. North pole
  - B. North and South pole
  - C. South pole
  - D. Center
  
2. Which of the following is not a conductor? 2007
  - A. Iron
  - B. Copper
  - C. Aluminum
  - D. Brass
  
3. What is the total voltage of three dry cells connected in series circuit? 2007
  - A. 2 V
  - B. 3 V
  - C. 4 V
  - D. 4.5 V
  
4. Magnets attract 2007
  - A. Magnets only
  - B. Magnets and other substances
  - C. Aluminum
  - D. Wood
  
5. Man-made magnets are called: 2008
  - A. Magnet
  - B. Artificial magnet
  - C. Natural magnet
  - D. Electromagnet



6. If you look at this picture. The resistance of the bulb is: 2008

- A.  $5 \Omega$
- B.  $8 \Omega$
- C.  $10 \Omega$
- D.  $12 \Omega$

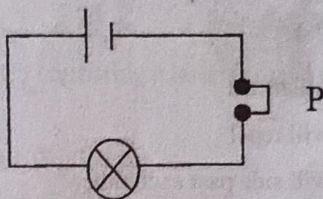


7. If you wind a wire around a nail and connect to a dry cell, it could attract 2008

- A. Small papers
- B. Wood pieces
- C. Small pins
- D. Leaves

8. In the adjacent diagram, P stands for 2009

- a. Lamp
- b. Cell
- c. Switch
- d. Fuse



9. Which of the following material is a conductor of electric current? 2009

- a. Wood
- b. Plastic
- c. Iron
- d. Glass

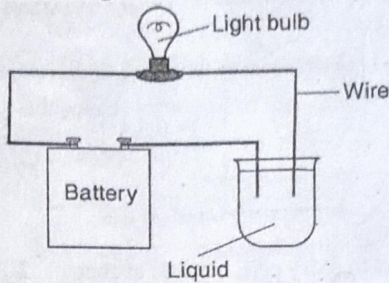
10. Which of the following substance is attracted by a magnet? 2010

- a. Plastic
- b. Gold
- c. Iron
- d. Wood



11. The diagram below shows an experiment to test a certain property of liquids

2010

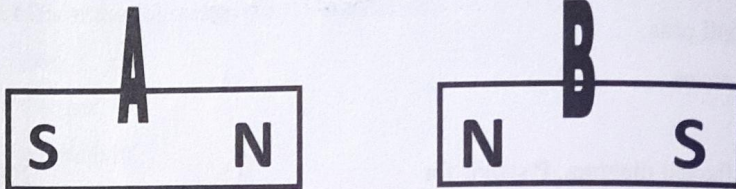


Which property of the liquid is being tested?

- A) Density
- B) Conductivity
- C) Magnetic attraction
- D) Freezing point

12. The below shows two Magnets brought near each other

2011



The result will be

- A. Magnet will attract
  - B. Magnets will repel
  - C. Magnets will side past each other
  - D. Magnets will remain stationery
13. The flow of electricity is the

2011

- A. Flow of electrons
  - B. Flow of protons
  - C. Flow of neutron
  - D. All
14. Simple electric circuit consists of

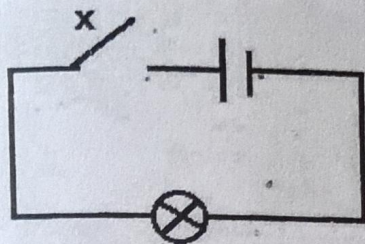
2011

- A. Battery (cell)
- B. Conductor
- C. Lamp
- D. All



15. The component labeled X is

2011



- A. Battery
- B. Lamp
- C. Switch
- D. Conductor

16. Which of the following is the best conductor of electricity

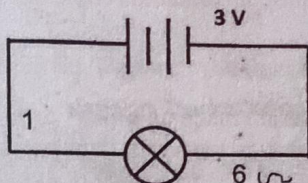
2012

- A. Wood
- B. Copper
- C. Plastic
- D. Rubber

17. The figure shows a simple circuit consisting a lamp (or bulb) and a battery. The electric current through the lamp is:

2012

- A. 0.5A
- B. 2A
- C. 1.5 A
- D. 2.5 A



18. Magnets made by current flowing in a coil are called:

2016

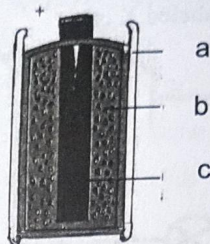
- a) Air magnet
- b) Steel magnet
- c) Electromagnets
- d) Iron magnet



19. The figure bellow shows a dry cell which letter shows the carbon rod:

2016

- a)
- b)
- c)
- d)



20. Which of the following things are conductors:

2016

- a) Wood
- b) Plastic
- c) Metal
- d) Sand

21. Magnet cannot be made by:

2017

- a) Stretching method
- b) Induction method
- c) Electromagnetic method
- d) By hitting method

22. A magnet attracts substances that are made up of:-

2018

- a) paper, wood, and nickle
- b) Iron, cobalt and nickel
- c) iron, copper and brass
- d) copper, Aluminium and brass

23. Which of the following is **NOT** a good conductor?

2018

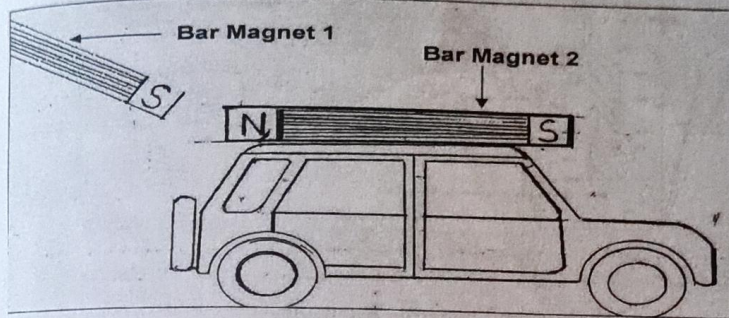
- a) iron
- b) wood
- c) water
- d) silver



## 8.2. Structured questions

1. a. Look at the diagram then answer the following:

2006



- (i) If the bar magnet (1) is brought near to bar magnet (2), in which direction will the toy car move

.....

.....

- (ii) Give reason for your answer

.....

.....

- b) Using the following materials complete the following table

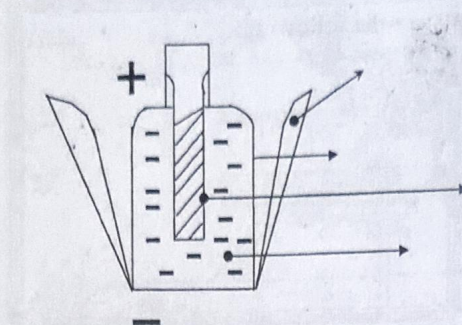
(Gold, Glass, Rubber, Silver, Copper, Aluminum, Wood, Cotton)

Good Conducts of electricity	Bad Conductors of electricity (Insulators)



2. (a) Look at the diagram below and label the parts shown

2007



- (b) Write the names of positive and negative electrodes

- (i) Name of positive electrode.....  
(ii) Name of negative electrode.....

- (c) Calculate the resistance in a circuit with a voltage of 6 V and a current of 2 A.

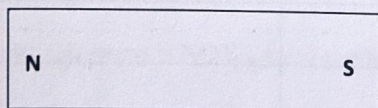
.....  
.....  
.....

3. The electromagnetic crane and loudspeaker are ..... of  
electromagnetism

2008

4. In the following diagram make,

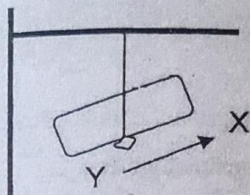
- a. Two magnetic lines of force on each side showing also direction of lines. 2009





5. a) A bar magnet is hung as shown in the figure. The magnet becomes at rest pointing the directions X and Y

2012



- I. x stands for the ..... pole of the magnet  
II. Y stands for the ..... pole of the magnet

b) The strength of a bar magnet is strongest at .....

( the center , poles , the top )

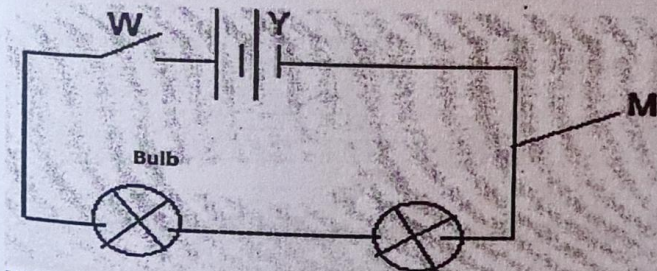
c)Some of the praying mats consist of a magnetic pointer ( compass)

Explain in brief how the pointer helps the prayer

.....  
.....

6. The diagram below shows simple electric circuit

2013



- A. Write down the names of electrical components that letters W, Y and M represent.  
Choose your answer from box.

**Battery**

**Bulb**

**Fuse**

**Wire**

**Switch**

W.....

Y.....

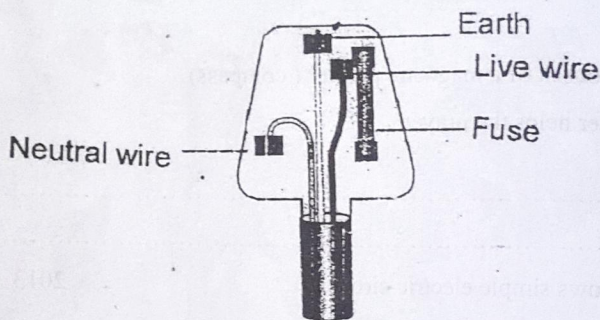
M.....



B. Complete the following

- i. The circuit above bulbs are connected in .....  
( parallel/series )
- ii. When bulbs are connected a shown in the diagram the bulbs glow  
..... ( brighter / dimmer )
- iii. The bulbs in our homes are connected ..... ( parallel / Series )

C. The diagram bellows shows fuse in a plug



What is the function of the fuse in an electrical circuit?

.....

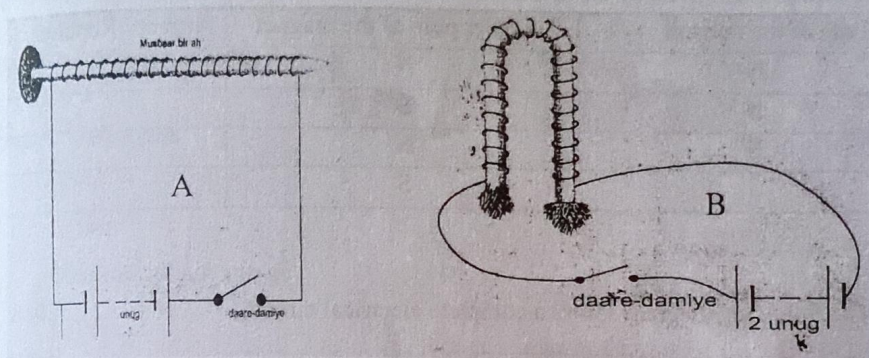
.....

.....

.....



7.



Use the above diagrams (A, B) in answering the following questions. Put the sharp-end of the nail in the saucer containing the iron powder while the circuit is open. Put on the switch.

- a) Did the nail attract the iron powder in the saucer?

Yes..... No.....

Why? .....

Again put the sharp-end of the nail in the iron powder while the circuit is closed. Put on the switch.

- b) Did the nail attract the iron powder in the saucer?

Yes ..... No .....

Why? .....

- c) Which one of the two nails (A,B) Produces Strong Electromagnetism?

A.....B.....

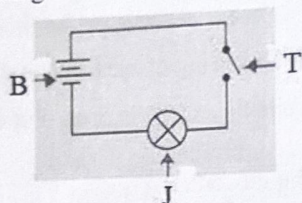
Why? .....



8. Study the following table and fill in the empty cells by writing:- Attract or Repel, according to the information given by the table? 2018

One Pole of the magnet	The other pole of the magnet	Attract / Repel each other
N	N	
N	S	
S	N	
S	S	

9. The following diagram shows a complete electrical circuit. 2018



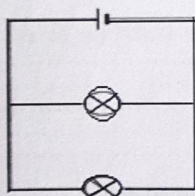
- a) Write down the labeled parts

B. \_\_\_\_\_

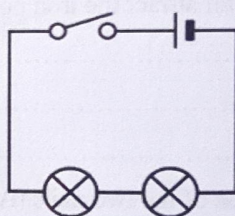
T. \_\_\_\_\_

J. \_\_\_\_\_

- b) Identify the following circuits



\_\_\_\_\_



\_\_\_\_\_



## Unit 9. Making work easier

### 9.1. Multiple choice questions

1. Fulcrum is defined as 2006
  - A. Load
  - B. Effort
  - C. Mechanical advantage
  - D. Pivot
  
2. Work is: 2006
  - A. Speed X Force
  - B. Distance X Force
  - C. Speed X Distance
  - D. Speed X Time
  
3. In which of the following is friction not useful. 2007
  - A. Walking
  - B. Car moving on the road
  - C. Moving parts of the cars
  - D. Kicking a ball
  
4. What is necessary for us to do work? 2008
  - A. Force
  - ☒ B. Energy
  - C. Power
  - D. Effort



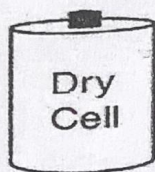
2009

5. Which one of the following is not a simple machine

- A. Lever
- B. Inclined plane
- C. Motor
- D. Pulley

2010

6. Which objects represents a simple machine?



Battery

A



Pliers

B



Match

C



Candle

D

2011

7. Which one of following reduces friction?

- A. Wax
- B. Sand
- C. Tar
- D. Oil

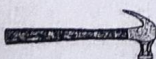
2012

8. Which of the following is NOT a simple Machine

A) Pliers



B) Hammer



C) Scissor

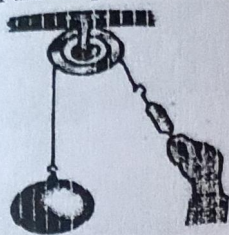


D) Fan





9. The type of the simple machine which the diagram below represents is: 2013



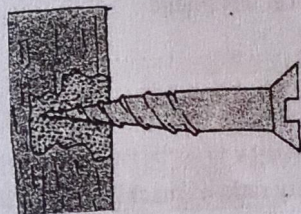
- A. Lever
- B. Incline plane
- C. Pulley
- D. Gear and wheels

10. Mohamed lifted an 8 kg carton of milk packet from the ground to a shelf of 1 meter. The work done by Mohamed is: 2014

- a) 80 J
- b) 70 J
- c) 60 J
- d) 50 J

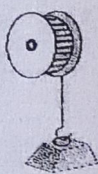
11. The type of the simple machine which the diagram below represents is: 2014

- a) Inclined plane.
- b) Screw.
- c) Pulley
- d) Lever.

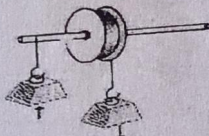


12. Which of the following diagrams indicates wheel and axle 2014

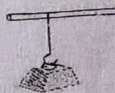
- a) A
- b) B
- c) C
- d) D



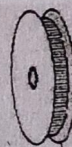
A



B



C



D

13. Which of the following substances will not reduce friction? 2014

- a) Grease.
- b) Oil
- c) Sand.
- d) Ball and bearing.



14. Work is measured by:

2016

- a) Kg
- b) Joules
- c) Meter
- d) Cubic

15. Machines which makes work easier are:

2016

- a) Pulleys
- b) Table
- c) Stoves
- d) Bulb

## 9.2. Structured questions

1. (a) define mechanical advantage

2007

.....

.....

.....

(b). Calculate the velocity ratio of machine if the radius of a wheel (R) is 30 cm and the radius of the axle (r) is 15 cm.

.....

.....

.....

.....

2. A. Define work?

2008

.....

.....



B. Faadumo has lifted a 50kg bag of rice to a height of 1.00 m. find the work done

.....

.....

.....

3. The simple machines that help us to do work are

2008

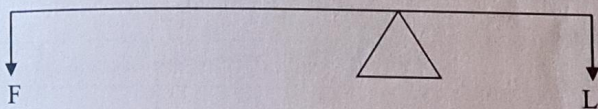
- I. ....
- II. ....
- III. ....
- IV. ....

4.

3M

1M

2008



- I. The distance between F and E is called effort.....
- II. The distance between F and L is called the load .....
- III. If  $LF=1m$  and  $L=100N$ , find the effort when the whole system is balanced.

.....

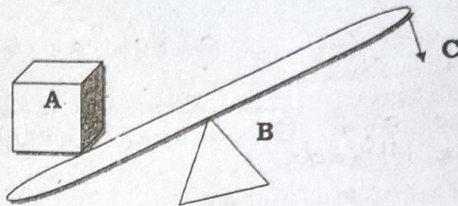
.....

.....



2012

5. The figure shows a level used to raise a heavy box



a) A lever is an example of simple .....

b) Used the words in the boxes to complete the following

Effort	Load	Fulcrum( pint )
--------	------	-----------------

- B stands for .....
- A Stands for .....
- C stands for .....

6. a. What is lever?

2014

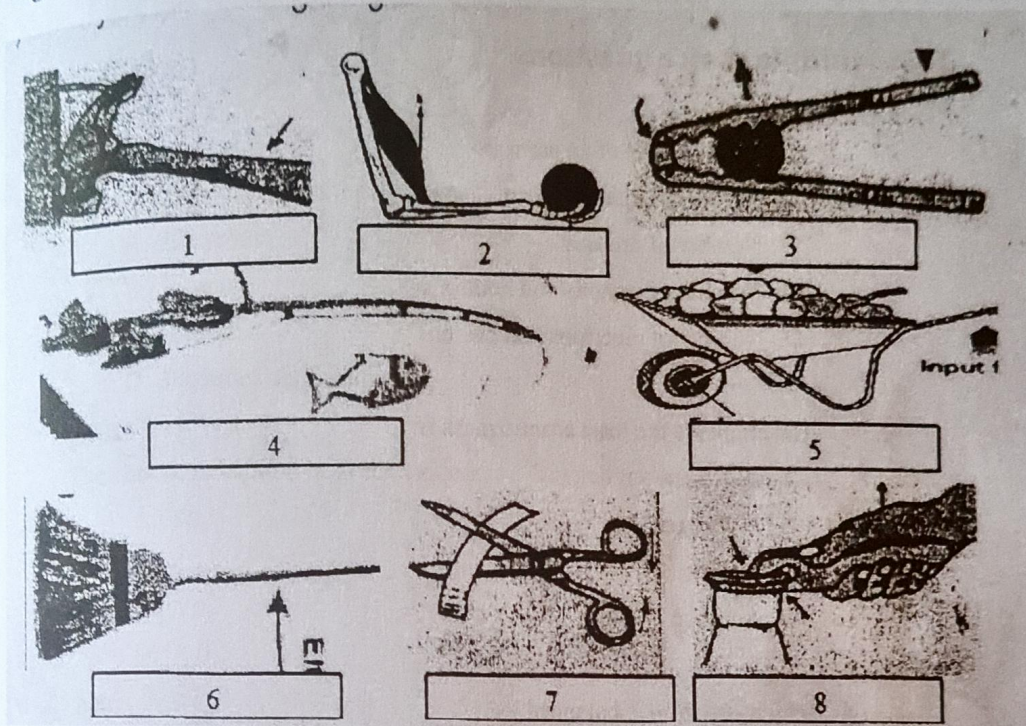
b. What the lever is used for?

c. What do the following letters represent for?

- F .....
- L .....



d. Study the following diagrams



Fill the following table with numbers of the above mentioned simple machines on their proper classes.

Class I	Class II	Class III



## Unit 10. Matter

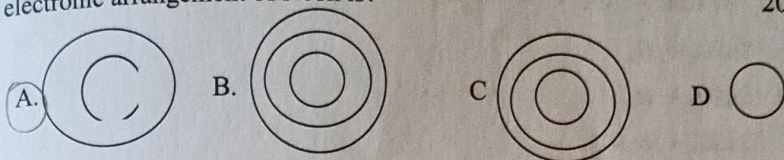
### 10.1. Multiple choice questions

1. The atomic number of an atom is: 2006
- A. Number of electrons
  - ☒ B. Number of protons
  - C. Number of protons and neutrons
  - D. Number of electrons and protons
2. The elements the least atomic mass is: 2006
- A. Nitrogen
  - ☒ B. Hydrogen
  - C. Helium
  - D. Sulphur
3. Which equation is balanced? 2006
- A.  $Mg + O_2 \rightarrow MgO$
  - ☒ B.  $2Mg + O_2 \rightarrow 2MgO$
  - C.  $Mg + O_2 \rightarrow 2MgO$
  - D.  $2Mg + O_2 \rightarrow MgO$
4. The mass number of oxygen is? 2006
- A. 8
  - ☒ B. 16
  - C. 24
  - D. 36



5. The electronic arrangement of Neon is?

2006



6. The positive charge on the nucleus of an atom is due to the presence of: 2006

- A. Electrons
- ☒ B. Protons
- C. Neutrons
- D. Electrons and Neutrons

7. The chemical reaction between carbon and Oxygen produces? 2006

- A.  $SO_2$
- ☒ B.  $CO_2$
- C.  $NO_2$
- D.  $P_2O_2$

8. Bases turn red litmus to: 2006

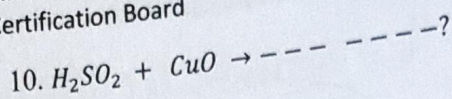
- A. Yellow
- B. Black
- ☒ C. Blue
- D. Green

9. A reaction between an acid and a base produces: 2006

- ☒ A. Salt and water
- B. Salt only
- C. Salt and Hydrogen
- D. Acid and Oxygen



2006



- A.  $CuSO_4 + O_2$
- B.  $CuSO_4 + H_2$
- ☒ C.  $CuSO_4 + H_2O$
- D.  $CuSO_4$

2007

11. Symbol of Sodium is:

- A. CL
- B. Mg
- ☒ C. Na
- D. Mn

2007

12.  $MnCl_2$  is made up of:

- A. An atom
- ☒ B. Two (2) atoms
- C. Three(3) atoms
- D. Five (5) atoms

2007

13. A mixture of Salt and Water can be separated by:

- ☒ A. Evaporation
- B. Magnet
- C. Cooling
- D. Filtration

2007

14. Physical change of element is:

- ☒ A. Changeable
- B. Unchangeable
- C. Increasable
- D. Decreasible



15. The chemical symbol of the element mercury is 2008  
A. Br  
B. Mg  
C. Hg  
D. Cu
16. The chemical formula of the compound aluminum sulphate is 2008  
A.  $(NH_4)_2SO_4$   
B.  $Na_2SO_4$   
C.  $CaSO_4$   
D.  $Al_2(SO_4)_3$
17.  $Acid + Alkali \rightarrow Salt + \underline{\hspace{2cm}}$  2008  
A. Carbon dioxide  
B. Hydrogen  
C. Oxygen  
D. Water
18. Which one of the following is not a chemical change? 2008  
A. Frying an egg  
B. Burning a piece of paper  
C. Melting an ice cube  
D. Flame of spirit burner
19. Which of the following is an acid? 2008  
A. Sodium hydroxide  
B. Sodium chloride  
C. Hydrochloric acid  
D. Calcium carbonate



20. When a red litmus paper is inserted in ash, litmus paper changes to? 2009
- a. Red
  - ☒ b. Blue
  - c. White
  - d. Black
21. When a blue litmus paper is inserted in a lemon fluid, litmus paper changes into
- ☒ a. Red
  - b. Blue
  - c. White
  - d. Black
22. Acid found in natural substances is called? 2009
- ☒ a. Organic acid
  - b. Inorganic acid
  - c. Base
  - d. Indicator
23. Which one of the following is drugs against acid? 2009
- a. Ash
  - b. Milk
  - c. Powder
  - ☒ d. Gastropia
24. When an acid and a base are mixed, the product will be? 2009
- a. Concentrated
  - b. Dilute
  - c. Dilute acid
  - ☒ d. Water



5. When a perfume is sprayed in a room, it spreads through?

2010

- ☒ a. Diffusion
- b. Evaporation
- c. Osmosis
- d. Expansion

6. The separation of salt and sand can be carried out by?

2010

- ☒ a. Dissolving and filtration
- b. Dissolving and condensation
- c. Evaporation and condensation
- d. Condensation and dissolving

27. Acids turn the blue litmus paper into

2010

- A. Blue
- ☒ B. Red
- C. Orange
- D. Yellow

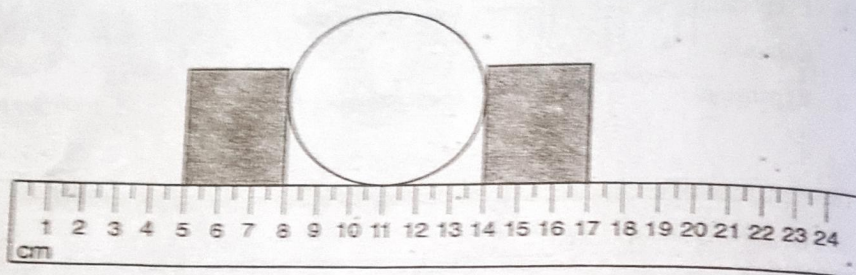
28. The acid in lemon juice is called?

2010

- a. Lactic acid
- b. Hydrochloric acid
- ☒ c. Citric acid
- d. Sulphuric acid



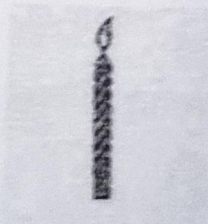
29. The diagram below shows a ball held in place by two blocks. The diameter (width) of the ball is shown between the two blocks. 2010



What is the diameter of the ball?

- A. 6.00cm      B. 8cm      C. 14cm      D. 17cm
30. Acid found in car battery is called 2011
- A. Tartaric acid  
B. Nitric acid  
C. Lactic acid  
D. Sulphuric acid
31. Acid + Bases  $\longrightarrow$  ..... + water 2012
- A. Oxygen  
B. Salt  
C. Alkali  
D. Carbon
32. The diagram below shows a burning candle wax, the changes that take place are 2012

- A. Chemical change only  
B. Physical change only  
C. Physical and chemical changes both  
D. Combustion





33. A solution contains:

2012

- A. Solute only
- B. Solvent only
- ☒ C. Solute and solvent mixed together
- D. Water only

34. The table shows acids and bases complete and write the correct tick (✓) for the correct answer and (X) incorrect answer. For example sour milk

2012

Substance	Acid	Base
Sour Milk	✓	X
Lemon	✓	X
Fermented dough	X	X
Plant ash	X	✓

35. The acid found in our stomach is called

2013

- ☒ A. Hydrochloric
- B. Lactic
- C. Sulphuric
- D. Nitric

36. Bases that dissolves in a water are called

- ☒ A. Alkali
- B. Salts
- C. Neutral
- D. Acid

37. Which one the following substances is NOT a matter.

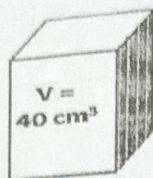
2013

- A. Air
- B. Heat
- C. Water
- D. Stone



38. An object has a volume of  $40\text{cm}^3$ . If the density of the object is  $0.8\text{g/cm}^3$  what is the mass of the object? 2013

- A. 32g
- B. 5g
- C. 50g
- D. 0.02 g

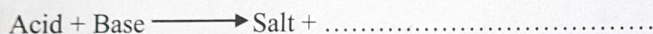


39. Density of a substance is found 2013
- A. Volume X Density
  - B. Mass / Density
  - C. Mass / Volume
  - D. Volume / Mass

40. Salt dissolves in water to make

- a. Suspension      b. solution      c. Bubbles      d. residue 2013

41. The chemical reaction between Acid and Base produces salt and other substance as shown in the chemicals equations 2014



What is the other substance formed?

- A. Hydrogen
- B. Acid
- C. Base
- D. Water

42. The chemical reaction between acid and base produces:- 2014

- a) Neutral solution
- b) Acidic solution
- c) Basic solution
- d) Partly acidic and partly basic solution



43. When lemon juice is dropped on blue litmus paper, the blue litmus paper changes into:-

- a) White.
- b) Green.
- c) Black
- d) Red

44. Density is defined as mass/volume. Then volume is:- 2014

- a) Mass/density.
- b) Density/mass.
- c) Density X mass.
- d) Mass/volume.

45. The sour of milk is caused by : 2016

- a) Virus
- b) Germs
- c) Fungi
- d) Bacteria

46. Chemical reactions occur when two substances are combined by: 2017

- 9. Chemically
- 10. Physically
- 11. Hardly
- 12. Easily

47. The chemical symbol of magnesium is: 2017

- a) Mn
- b) MG
- c) Mg
- d) MN



48. The reaction occurs between the metal and non-metal produce:

- a) Sharing bond
- b) Ionic bond
- c) Atomic bond
- d) Covalent bond

49. The acid which is found in grapes is called:

- a) Lactic
- b) Hydrochloric
- c) Nitric acid
- d) Tartaric acid

50. When we add acid and water it produces:

- a) Water and hydroxide
- b) Water and oxide
- c) Water and milk
- d) Water and acid

51. The following diagram indicates how to separate mixtures and is known as:

- a) evaporation
- b) distillation
- c) winnowing
- d) sieving



52. Which one of the following is found in the nucleus of an atom?

- a) protons
- b) protons and electrons
- c) neutrons
- d) protons and neutrons



2018

53. Sodium electrons are arranged as the following

- a) 2,8
- b) 2,6
- c) 2,8,8,1
- d) 2,8,1

54. Sodium atom loses an electron and becomes:

2018

- a) positive ion
- b) negative ion
- c) neutral ion
- d) uncharged ion

55. Which one of the following is increased by heating of an aluminum bar? 2018

- a. Volume
- b. density
- c. weight
- d. charge

56. Acids turn blue litmus paper into:

2018

- a) red
- b) yellow
- c) pink
- d) black

57. Which statement is **NOT** true about the usage of acids? Acids are used to:- 2018

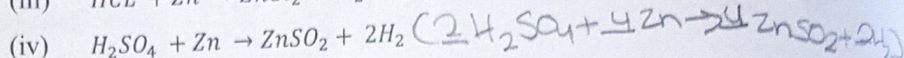
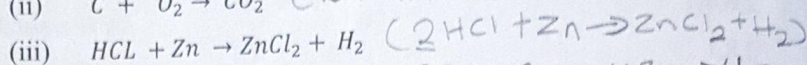
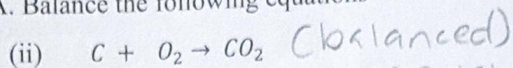
- a) remove rust
- b) preserve food
- c) clean metal
- d) make gastric acid



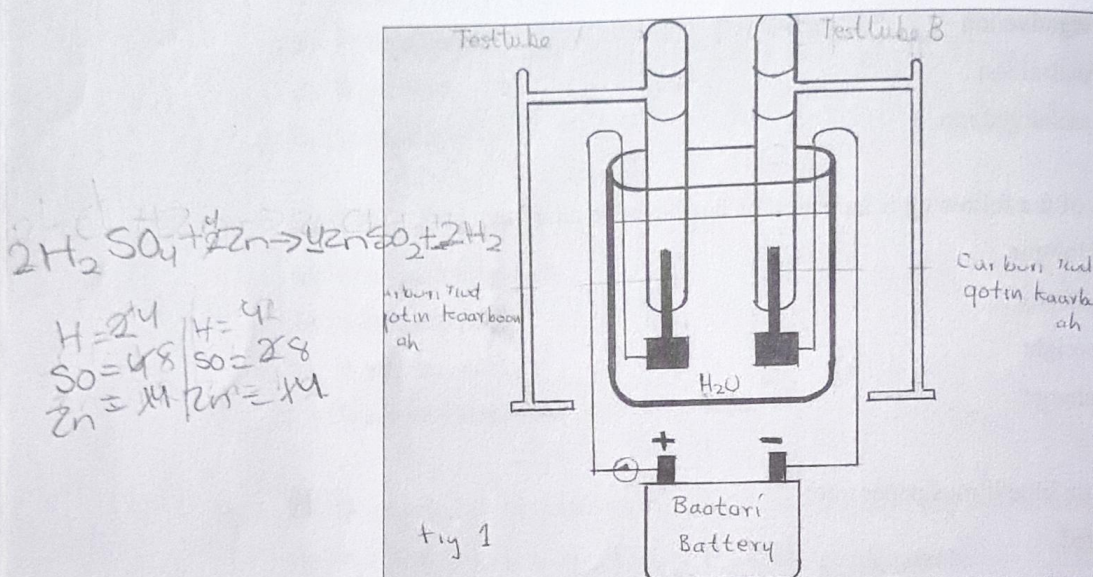
## 10.2. Structured questions

2006

1) A. Balance the following equations



B. Study the following diagrams and answer the questions in figure one



Which type of reaction is  $H_2O \rightarrow H_2 + O$

...decomposition

(i) In the reaction  $H_2SO_4$  acid is added. Why?

2) Write the chemical formula of the following compounds

2006

a) Calcium Carbonate  $CaCO_3$

b) Silver Nitrate  $AgNO_3$

c) Sulphuric Acid  $H_2SO_4$

d) Hydrochloric Acid  $HCl$

e) Copper Sulphate  $CuSO_4$



2007

- 3) i) Matter is made up of

Atom which contains two or more  
substances that are not chemically bound  
together

(ii), Molecules are in continuous.....

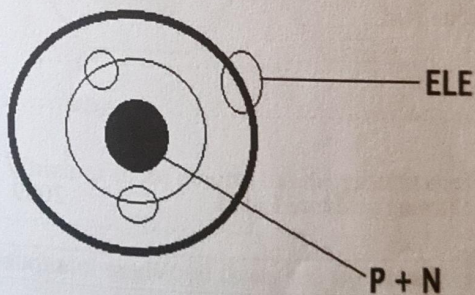
(iii), Molecules of one substance are..... in every aspect.

- 4) (a) Explain what you understand by

2007

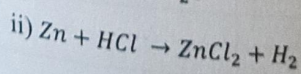
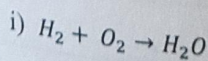
- i) Mixture.....  
.....  
.....
- ii) Compound.....  
.....  
.....

- (b) Write the name of the following atom draw below.



Name.....

- (c). Balance the following chemical equations





5) a) Distinguish between mixtures and compounds?

2008

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

b) give one example of each.

.....  
.....

6) a) complete and balance the following chemical equations

2008



b) state two properties of an acid

.....  
.....

7) State and write where the following acids are found

2009

S/No	Type of acids	Where it is found
1	Citric acid	
2	Ascorbic acid	
3	Lactic acid	
4	Hydrochloric acid	
5	Nitric acid	



2009

8) Why is Sulphuric acid used for car batteries?

9) Complete the following equation

2009

a. Acid + base = ..... + .....

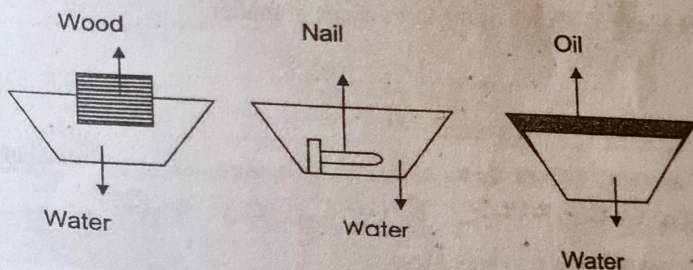
b. State one property of an acid and base

ACIDS .....

BASE .....

10) A.

2010



I. Which of these objects has the greatest density?

II. Explain why wood floats and the nail sinks

B. an empty container has a mass of 40g. when it is filled with  $100\text{cm}^3$  of water, the mass of the container and water is 120g.

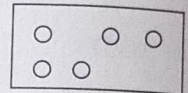
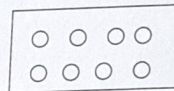
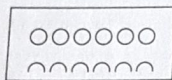
i. find the mass of water in the container?



ii. what is the volume of water in the container

iii. find the density of water?  $\text{density} = \frac{\text{mass}}{\text{volume}}$

- 11) A) the boxes below show arrangement of particles in three states of matter 2010  
Identify the solid, liquid and gas.



i. Name ..... ii. Name..... iii. Name.....

B) Give one example of each of the three states of matter.

.....

.....

.....

- 12) Copy and complete the table below. Put a tick (✓) for the correct space. 2010

Substance	Acid	Base
Sour milk		
Saliva		
Pure milk		
Vinegar		



13) If density is found by the formula  $\text{Density} = \frac{\text{Mass}}{\text{volume}}$  rearrange the formula to find formula for volume. 2011

a) Volume = \_\_\_\_\_

b) If the mass of a stone is 200g and its density is  $3.3\text{g/cm}^3$ . Find the volume of the stone?

.....  
.....

14) a) Name any two properties of an acid

2012

.....  
.....

b) State the three physical states of matter and give one example

.....  
.....

15) a) Define the following terms

2012

I. Indicator

II. Alkali

.....  
.....

b) (i) state the change that you observed when a blue litmus paper is dipped in a vinegar beaker.

.....  
.....

(ii) State the change that you observed when a red litmus paper is dipped in ash

.....  
.....

16. Match the following add in part A to their source in Part B

2013



Part A	Part B
Lactic	Lemon / Orange
Sulphuric	Grape
Citric	Sour Milk
Ascorbic	Batteries
Tartaric	Vegetable

17. a) Make an experiment in which you separate a mixture of salt and sand?

2016

- i) .....
- ii) .....
- iii) .....
- iv) .....

b. Name the method that you can separate salt and water?

.....  
.....

16. A water tank measures 4 m light, 2m wide and 6 m long. What is its volume?

2016

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

17. Balance this equation

2017



.....  
.....

18. A) what is a chemical reaction?

2017

.....  
.....

B) Give two main examples

- i. ....
- ii. ....



2017

19. Define these:

1. Reactants

2. Products

20. Classify the following materials into acid or base:

2017

Substance	Acid	Base
Sour milk		
Pineapple		
Vinegar		
Fresh milk		
Coffee		
Baking powder		

21. a) Give a brief explanation about chemical equation?

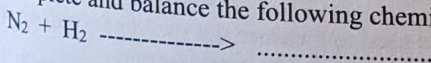
2018

b) Write down two examples about chemical equations?

22. a) List two common acids and bases, you come across in everyday life?

2018

b). Complete and balance the following chemical equation





## Unit 11. Weather

### 11.1. Multiple choice questions

2006

1. Thermometer is an instrument which measures:-

A. Heat  
B. Temperatures  
C. Pressure  
D. Volume

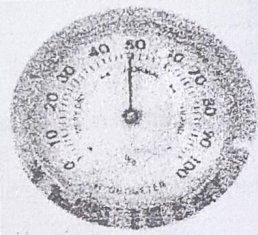
2. Which of the following equipment is used to indicate the direction of the wind? 2013

A. Weather vane  
B. Wind vane  
C. Mano metter  
D. Barometer

3. The following instrument is used to measure:-

2014

a) Humidity  
b) Temperature  
c) Rainfall  
d) Pressure



4. The mixture of gases that surround the Earth are called:-

2014

a) Climate  
b) Atmospheric pressure  
c) Pressure  
d) Atmosphere

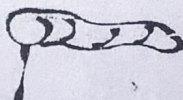
5. Which of the following instruments is used to measure the speed of wind? 2014

a) A  
b) B  
c) C  
d) D

A



B



C



D



6. The most important causes changing the weather is:

2016

- a) Atmospheric pressure
- b) Less clouds
- c) Less rain
- d) Weakness of wind

7. When we say "today is very hot, we talk about:

2017

- a) Weather
- b) Climate
- c) Humidity
- d) Temperature

## Unit 12. Environment

### 12.1. Multiple choice questions

1. Fresh waste of cattle can be used to produce the gas called

2012

- A. Methane
- B. Ethane
- C. Butane
- D. Propane

2. Soil pollution is a cause of:-

2014

- a) Deforestation.
- b) Soil erosion.
- c) Addition of dirty and poisonous substance in soil.
- d) Addition of large amounts of animal wastes in the soil



## Unit 13. Agriculture

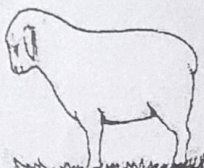
### 13.1. Multiple choice questions

1. Sheep are kept mainly for production of meat and milk. Which of the following is farmed for wool? 2014

- a) A  
b) B  
c) C  
d) D



A



B



C



D

2. According to the battery system any cage for two birds should be about. 2014

- a) 45 cm X 60 cm X 0.3 m  
b) 20cm X 18 cm X 15 m  
c) 40cm X 3 cm X 30 cm  
d) 60 cm X 45 cm X 60 m

3. Poultry are effected by a various diseases and parasites, these includes: 2016

- a) Thrush  
b) Typhoid  
c) Malaria  
d) Anemia

### 13.2. Structured questions

1. Make a comparison in between methods of chicken rearing? 2018

a) Advantage of free range system

Reduce cost of feeding

b) Disadvantage of free range system

difficult to control birds



## Unit 14. Energy

### 1. Multiple choice questions

1. The energy stored in our food is known as.....energy 2010

- a. mechanical
- ☒ b. chemical
- c. sound
- d. heat

2. Which of the following substances store chemical energy 2012

a Light bulb



☒ b Candle



c Spiral



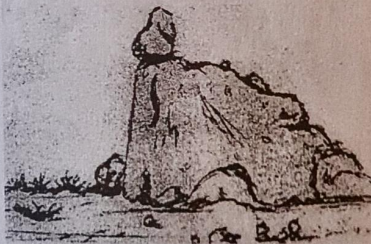
d Football



3. A stone on the edge of a cliff has:-

2014

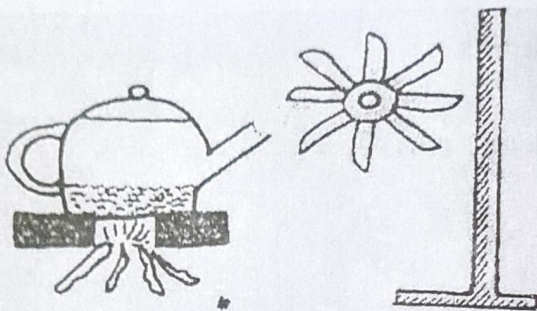
- ☒ a) Potential energy.
- b) Kinetic energy.
- c) Sound energy.
- d) Light energy





2014

4. The following diagram shows energy transformation:-



- a) Chemical energy ----- heat energy ----- kinetic energy
- b) Chemical energy ----- kinetic energy ----- heat energy
- c) Kinetic energy ----- heat energy ----- chemical energy
- d) Kinetic energy ----- chemical energy ----- heat energy

5. The forms of energy is include:

2017

- a) heat energy
- b) mechanical energy
- c) sound energy
- d) all of them

6. The unit that is measured by energy is:

2017

- a) Kg
- b) M
- c) Newton
- d) Joule



## 14.2. Structured questions

1) a. Write down four kinds of energy

2009

- iii. .... mechanical energy .....
- iv. .... heat energy .....
- v. .... chemical energy .....
- vi. .... light energy .....

b. Where does our body get energy?

..... it gets it from the food that  
..... we eat .....

2) Name five types of energy

2011

- a) .... mechanical energy .....
- b) .... heat energy .....
- c) .... magnetic energy .....
- d) .... chemical energy .....
- e) .... electric energy .....



## Unit 15. Air

### 15.1. Multiple choice questions

1. Iron rusting result from 2007
  - A. Iron and Dry air
  - B. Iron and wet air
  - C. Iron and Nitrogen
  - D. Iron and Crypton
  
2. All lighting candle was covered by a glass jar and moments later the candle went off.  
This was because. 2007
  - A. Hydrogen was exhausted by the candle
  - B. Oxygen was exhausted by the candle
  - C. Nitrogen was exhausted by the candle
  - D. Neon was exhausted by the candle
  
3. Which one of the following gasses helps burning? 2013
  - A. Oxygen
  - B. Hydrogen
  - C. Carbon dioxide
  - D. Nitrogen

### 15.2. Structured questions

1. Air is a mixture of gases. State the gas in which organisms (animals and plants  
require to get energy) 2011

.....  
.....



## Unit 16. Earth and Space

### 16.1. Multiple choice questions

1. The reason that satellites cannot deviate from their orbits in the solar system is due to:

2014

- A. low speed of satellites.
- B. Sun's gravitational force.
- C. Earth's gravitational force.
- D. The atmosphere the surrounds the solar system.

2. \_\_\_\_\_ Provide energy which keeps all the earths creatures alive: 2016

- a) Moon
- b) Stars
- c) Rain
- d) Sun

3. What is made for Orion the hunter (Nin la gigay): 2017

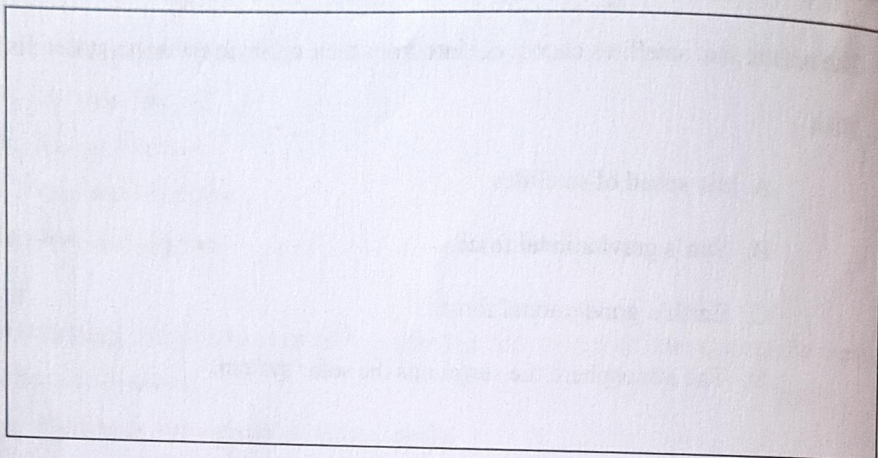
- a) Four bright stars
- b) Six red stars
- c) Two dim stars
- d) Seven stars



## 16.2. Structured questions

1. Briefly sketch and describe the lunar eclipse

2009



.....

.....

.....

.....



# Unit 17. Force and Motion

1. A spring is pulled downward and readings are recorded.

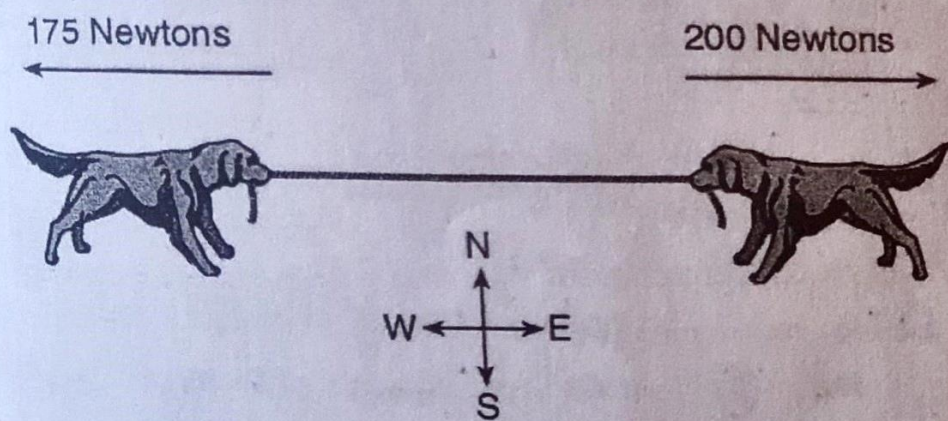
2009

Distance pulled	Scale reading
1.0 cm	4 N
1.5 cm	6 N
2.0 cm	8 N
2.5 cm	10 N

If the spring is pulled 3.5 cm, the spring scale should read

- a. 12 N
- b. 13 N
- c. 14 N
- d. 15 N

2. The diagram below shows two dogs pulling a rope with constant but UNEQUAL forces  
2010



In which compass direction will both dogs most likely move?

- a. East
- b. West
- c. North
- d. South



3. A car travelled **80m** in a straight line with 4m/s. What is the time required to complete its journey?

2018

- a. 20 s
- b. 84 s
- c. 48 s
- d. 20 s
- e. \_\_\_\_\_

### 17.2. Structured questions

1. a) Differentiate the following terms velocity and speed?

.....

.....

.....

.....

b. How can we calculate the average velocity of an accelerated body?

.....

.....

.....

.....

.....



## Unit 18. Answers

### Unit 1. Answers for multiple choices and structured questions

#### 1.1. Answers for multiple choices

1. A, 2. B, 3. B, 4. C, 5. A, 6. C, 7. C, 8. D, 9. D, 10. B, 11. A, 12. B, 13. B, 14. A, 15. B, 16. D, 17. B, 18. A

#### 1.2. Structured questions

- i.
  - a) Dehydration is the loss of water and other nutrients from the body.
  - b) Dehydration can be prevented by drinking ORS and lots of water
  - c) Little or no urine, dry mouth, sunken tearless eyes, skin loses elasticity
  - d) Fill bottle with clean water then mix in teaspoon of salt and 6 teaspoons of sugar.
2. Symptoms of gonorrhea
  - a) Frequent painful urination
  - b) Burning, irritating, feeling when passing urine
  - c) Thick yellowish pus discharge after sexual contact
3. three factors which cause the spread of AIDS are
  - a) lack of information
  - b) low awareness
  - c) migration and population mobility
4.
  - a) gonorrhea is caused by *Neisseria gonorrhoeae*
  - b) Syphilis is caused by *Treponema pallidum*
5. two main symptom of Gonorrhea
  - I. Burning, irritating, feeling when passing urine
  - II. Thick yellowish pus discharge after sexual contact



6. Three problems of Alcoholism
  1. Family Problems which include breakdown of family relationships
  2. Health problems which include damage to the brain and liver. It may also lead to malnutrition and cancer of the gullet
  3. Economic Problems include alcohol leads to poverty
  
7. four main symptoms of HIV/AIDS
  - f. Fatigue
  - g. Cancer of blood vessels
  - h. Low immune system indication
  - i. Skin rashes
  
8. A.
  - i. Bacteria are very small living organisms.
  - ii. Viruses are infectious agent which replicate inside living cells.
  - iii. AIDS is a deadly new disease in the STD category.  
B. Seven steps to be taken to control HIV infection and AIDS are:
  - I. Do not share needles or syringes during injection of medicines.
  - II. All blood for transfusion should be screened for the AIDS virus.
  - III. Avoid premarital sex
  - IV. Married couples should not have sexual relations outside marriage, as Zina is prohibited in Islam.
  - V. Cover cuts and wounds with water proof plasters or clean pieces of cloth.
  - VI. Get tested before getting marriage
  - VII. Not using ear articles, tooth pastes etc. among groups.

### 1.3. Extended question

The proper usage of roads

The roads can be used properly by:

- Using a footpath or pavement whenever possible.



- Standing to the side when talking to a friend so that other people are not forced to step off the footpath on to the road.
- Keeping close to the edge of the road where there is no footpath.
- Walking and facing the oncoming traffic so that you do not have to keep looking over your shoulder.
- Not walking in the middle of the road
- Using the special crossing places in towns.
- Looking left, looking right and left again before crossing when the road is clear.
- Not standing half way across the road waiting for traffic to pass.

## Unit 2. Answers for multiple choices and structured questions

### 2.1. Multiple choice questions

1. B, 2. D, 3. D, 4. B, 5. A, 6. C, 7. C, 8. B, 9. D, 10. A

### 2.2. Structured Questions

- 1) A. melting  
B. boiling  
C. condensation  
D. freezing
- 2) i. For fish farming.  
ii. Hydroelectric power generation  
iii. Extraction of salt from the sea.  
iv. Agricultural use

## Unit 3. Answers for multiple choices and structured questions

### 3.1 Multiple choice questions

1. D, 2. C, 3. C, 4. B, 5. A, 6. A, 7. A, 8. C, 9. D, 10. C, 11. B, 12. C, 13. B, 14. C, 15. D, 16. B, 17. B, 18. C, 19. B, 20. A, 21. B, 22. D, 23. B, 24. D, 25. C, 26. B, 27. D, 28. B, 29. C, 30. A, 31. C, 32. B, 33. D



### 3.2 Structured questions

1. (i) four chambers of the heart

- a) Right auricle (right atrium)
- b) Left auricle (left artium)
- c) Right ventricle
- d) Left ventricle

(ii) pulmonary artery

(iii) right side

(iv) Atria ventricular valves and aortic valve prevent the backflow of the blood

(v) a) veins

b) arteries

2. i. Internal fertilization

ii. External fertilization

3.

	Shape	Function
Red cells	Biconcave disc	Their function is to transport oxygen through whole the body
White cells	Spherical or round shaped	Their function is to fight against germs

4. a. breathing or respiration

b. nutrition taking in food

c. irritability, sensitivity or response

5. blood circulatory system

a) A. veins

B. arteries

b) aorta



- c) i. red blood cells  
ii. white blood cells  
iii. platelets

6.

	Organ	Waste excreted
1	Kidney	Urine
2	Lung	Carbon dioxide
3	Skin	Sweat

7. Structure of a skin

- a) A. epidermis  
B. dermis

b) Functions of the skin are:

- i. Giving the body its color  
ii. Sense when its touch  
iii. Excretion

c) Sweat is excreted in the skin through holes called pores

8. Human digestive system

A. Parts of the digestive system by which the letters represents are:

- A. Esophagus  
B. Stomach  
C. Pancreas  
D. Large intestine

B. Function of the organ B and D are:

- B.it digests the food  
D. it absorbs water



C. i. Two functions of the liver are:

1. The liver secretes substance called bile
2. The liver breaks down fats and oil

ii. small intestine

1. Small intestine digests the food
2. Small intestine absorbs the food

9. a) three parts of blood

- I. red blood cells
- II. white blood cells
- III. platelets

b) three types of blood vessels

- I. arteries
- II. veins
- III. capillaries

10. a) Veins return blood to the heart

b) capillaries

11. a) all the excretory organs of human body

- I. skin
- II. lungs
- III. liver
- IV. kidneys

b) Excretion is the process by which the body gets rid of waste substance produced by its own cells.

12. a) Fish is an aquatic organism that lives in the water. Fish reproduces in water.

b) Two types of fish

- I. bony fish
- II. cartilaginous fish



Two main functions of the skeletal system

- a. Movement
- b. Support

## Answers for multiple choices and structured questions

### Multiple choice questions

1.C, 2.B, 3.C, 4. A, 5. C, 6.D, 7.C, 8.C, 9.A, 10. C, 11. D, 12.B, 13.A, 14.A, 15.C, 16. B, 17.A, 18.C, 19.B, 20.D, 21.B, 22.A, 23.E, 24. B, 25. D, 26. B, 27. E, 28. C, 29. C

### 2. Structured questions

1. Main parts and their functions

	(a)	(b)
	Main parts of plant	Their functions
1	Flower	For reproduction
2	Leaf	Manufactures food
3	Stem	It conducts water to the above parts of the plant.
4	Root	It absorbs water and anchors plant to the ground
5	Hair roots	Absorbs water and minerals

2. A) functions of the root are:

- i) (Plant anchorage) The root anchors the plant firmly in the ground.
- ii) (Root absorption) The root absorbs water and mineral salts from the soil.
- iii) (Food storage) In some plant roots serve as food storage for the plant



- B. the two types of roots are
- tap root
  - Fibrous root
3. A. erect stems
4. Functions of the following:
- Epidermis** is the upper tissue of the internal part of the stem. Its function is protection.
  - Endoderm** is the tissue below the epidermis. It is food storage organ of the stem.
  - Xylem** is a type of plant tissue which carries water and minerals from the roots to the leaves and gives support to the stem.
5. A. food chain
- Grass
  - Insect
  - Lizard
- B. Food chain is a transfer of energy and materials through a sequence of organisms.
6. The labeled parts of the flower are:
- Stigma
  - Style
  - Ovary
  - Ovule or eggs
  - sepals
7. A. germination of seeds is the development of an embryo in a seed.
- B. Three factors that help germination of seeds are:
- presence of water
  - a suitable temperature
  - the presence of oxygen



8. a) the process by which plants produce their own food is photosynthesis

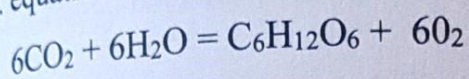
⑥ carbon dioxide + water  $\rightarrow$  glucose + oxygen

c) photosynthesis take place during the night

9. three things that cause seed dispersal are:

- I. water
- II. animals
- III. wind

10. equation which summarizes photosynthesis is



11. the important functions of the three are:

- i. Stem holds the leaves, fruits and flowers
- ii. Stem passes water and mineral salts to the leaves
- iii. Stem carries manufactured food from the leaves to the other parts of the plant.

12. a. the sun

⑥ deer and rabbit

c. trees

13. conditions of seed germination are:

- I. water
- II. suitable temperature
- III. oxygen

14. a) letters represented by the stages of photosynthesis

B. hydrogen

j. sugar

b) the gases produced by the plants are:

- I. oxygen during the day
- II. carbon dioxide during the night

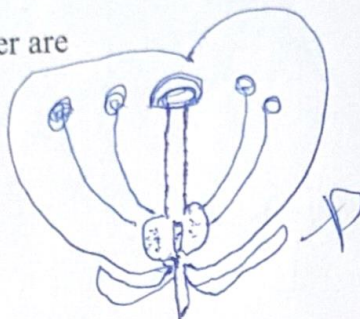


15. photosynthesis

- a. photo means light
- b. synthesis mean to build up
- c. glucose

16. the parts of the flower are

- a) Stigma
- b) Style
- c) Ovary
- d) Ovule



17. three methods that cause the seed dispersal are:

- a) water
- b) wind
- c) animals

18. a. functions of the root are

- i. water and mineral absorption
- ii. roots anchor the plant firmly into the soil

b. Taproot is a single root which grows down into the soil.

19. Conditions of seed germination are:

- a) Oxygen: oxygen is essential in the germination of seeds.
- b) Water: without water, seeds will not germinate.
- c) Suitable temperature: Seeds germinate under certain temperatures

20. Stages of Photosynthesis

- a) Stage 1: Water is split into hydrogen and oxygen in sunlight.
- b) Stage 2: Hydrogen combines with carbon dioxide to form a carbohydrate without sunlight.



### 4.3. Extended question

1. Pollination is a stage in the sexual reproduction of flowers.

It is the transfer of pollen grains from the anther to a stigma.

- Self-pollination is the transfer of pollen grains, from the anther to the stigma of the same flowers.
- Cross pollination is the transfer of pollen grains from the anther to the stigma of another flower of the same species.
- Elements that help pollination are insects and the wind.

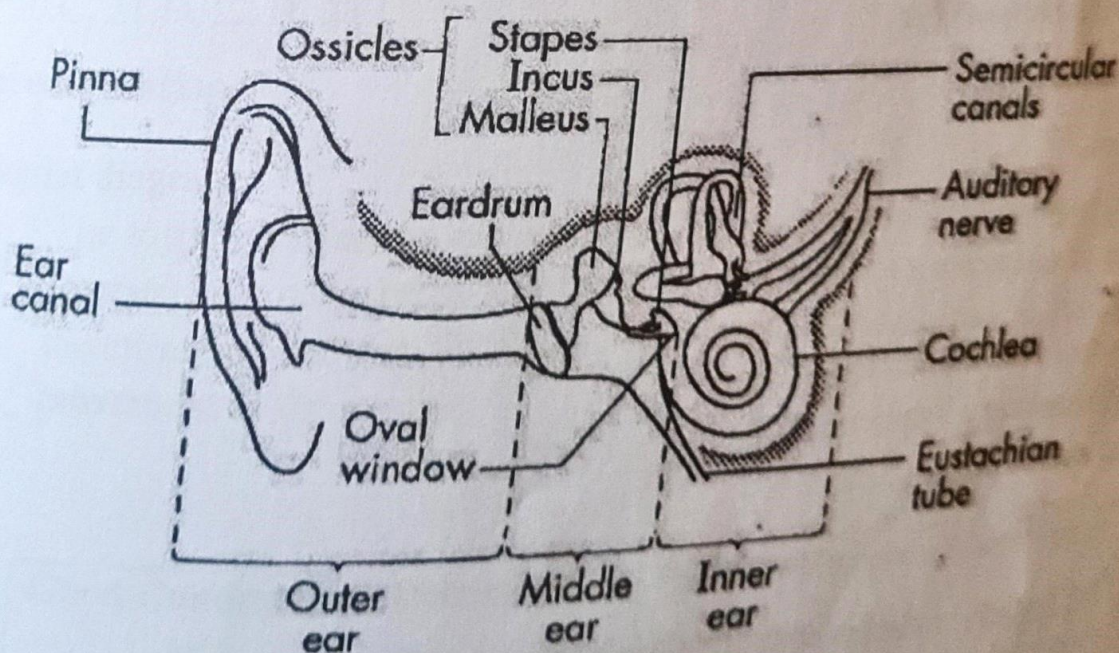
## Unit 5. Answers for multiple choices and structured questions

### 5.1. Multiple choice questions

1. A, 2. B, 3. C, 4. D, 5. C, 6. A, 7.C, 8.B

### 5.2 Structured questions

1.



2. a) energy

b) vacuum, medium

c) solid, particles



## Unit 6. Answers for multiple choices and structured questions

### 6.1. Multiple choice questions

1. C, 2.C, 3.D, 4.B, 5.C, 6.B, 7.C, 8.A, 9.A, 10. A, 11. D, 12.A, 13.C, 14. D, 15.A

### 6.2. structured questions

1. a) converging lens

b) near

2. a. Reflected ray

b. Incident ray

c. Normal line

d. Angle of incident

e. Angle of reflection

3. Parts of the human eye

a) Cornea

b) Lens

c) Retina

4. a. Parts of the human eye

i. Suspensory ligaments

ii. Lens

iii. Retina

b. i. ciliary muscles contract during focusing. Or viewing.

ii. the ciliary muscles contract because they control the thickness of the lens.

## Unit 7. Answers for multiple choices and structured questions

### 7.1. Multiple choice questions

1. B, 2.B, 3.C, 4.C, 5B



**Multiple choice questions**

1. Three kinds of stoves are
  - I. Metal stove
  - II. A clay stove (Traditional stove)
  - III. A metal stove
2. Three things can happen when a substance is heated:
  - ☐ The substances become hotter.
  - ☐ The substances may change its form.
  - ☐ The volume of the substance may increase.

**Unit 8. Answers for multiple choices and structured questions**

**8.1. Multiple choice questions**

1. B, 2. D, 3. B, 4. B, 5. B, 6. C, 7. C, 8. C, 9. C, 10. C, 11. B, 12. B, 13. A, 14. D, 15. C, 16. B, 17. A, 18. C, 19. C, 20. C, 21. D, 22. B, 23. C

**8.2. Structured questions**

1. a. Magnet diagram

- i. The toy car will move backward towards the south pole of the bar magnet
- ii. Because like poles repel each other while unlike poles attract each other. So that the attraction between the South Pole and North Pole causes backward movement of the toy car.

b.

Good Conducts of electricity	Bad Conductors of electricity (Insulators)
Copper	Gold
Aluminium	Glass
Silver	Rubber
	Wood
	Cotton

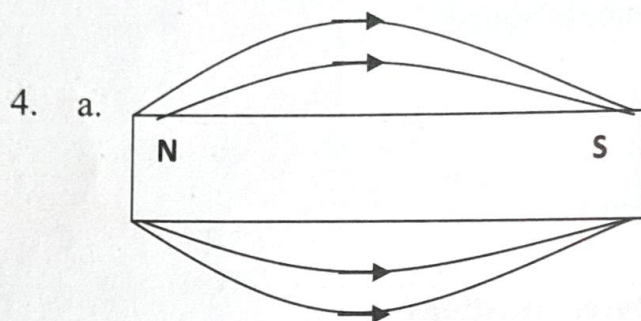


2. a. the labeled parts of the diagram  
b. positive and negative electrodes

- I. anode  
II. Cathode

c.  $r = \frac{v}{i} = \frac{6V}{2A} = 3 \Omega$

3. the electromagnetic crane and loadspeaker are examples of electromagnetism



5. a) the letters X and Y of the magnet diagram stands for:

- i. North  
ii. South

b) poles

c) it helps the prayer by showing the direction of the prayer.

6. A. the names of the simple circuit are:

W. Switch

Y. Battery

M. Wire

B.

- I. Series  
II. Dimmer  
III. Parallel

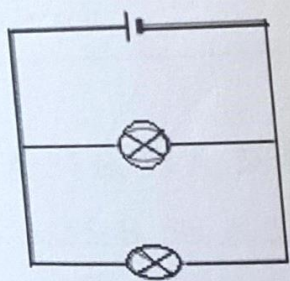
C. The function of the fuse is to disconnect the electricity if the electric current is too high or if something goes wrong with the wires in the house.



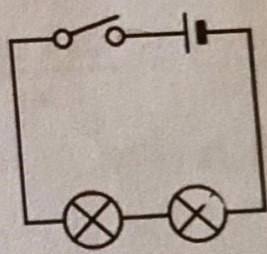
- a) No why? Because the circuit is open and the electricity cannot flow and the nail cannot be magnetized.
- b) Yes, why? Because circuit is closed and the nail will be magnetized.
- c) why? Because the U shaped magnet is powerful because the poles are near each other.

One Pole of the magnet	The other pole of the magnet	Attract / Repel each other
N	N	Repel each other
N	S	Attract each other
S	N	Attract each other
S	S	Repel each other

9. a. The labeled parts of the circuit
- B. Battery
- T. Switch
- J. Bulb
- b. Identify the following circuits



Parallel circuit



Series circuit

### Unit 9. Answers for multiple choices and structured questions

#### 9.1. Multiple choice questions

1. D, 2. B, 3.D, 4.B, 5.C, 6.B, 7.D, 8.D, 9.C, 10.A, 11.B, 12.B, 13.C, 14.B, 15.A

#### 9.2. Structured questions

1. a. mechanical advantage is the ratio of load to effort.

b.  $VR = \frac{\text{Radius of wheel}}{\text{radius of the axle}}$

$\frac{30 \text{ cm}}{15 \text{ cm}} = 2$



2. a) Work is an activity done when a force is applied to move an object from one point to another

b)  $w = f \times d$

$$= 500\text{N} \times 1\text{m}$$

$$500\text{j}$$

3. The simple machines that help us to do work are:

- I. Levers
- II. Inclined plane
- III. Gears
- IV. Pulleys

4. i. effort arm

ii. load arm

iii.  $E \times F_e = L_f \times L$

$$\textcircled{E} = \frac{L_f \times L}{F_e} = \frac{1\text{m} \times 100\text{n}}{3\text{m}}$$

$$E = 33.3\text{n}$$

5. a) simple machine

b) i. B stands for fulcrum

ii. A stands for load

iii. C stands for effort

6. a) Lever is a rigid rod turning about fulcrum or pivot.

b) Lever is used for moving heavy loads

c)

I. F Fulcrum

II. L Load



d)

Class1	Class2	Class3
1	3	2
7	5	4
8		6

## Unit 10. Answers for multiple choices and structured questions

### 10.1. Multiple choice questions

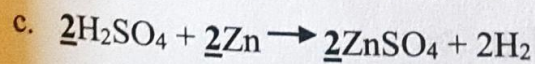
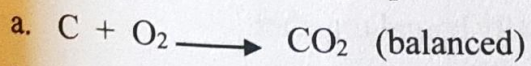
1.B, 2.B, 3.B, 4.B, 5. A, 6.B, 7.B, 8.C, 9.A, 10.C, 11.C, 12.B, 13.A, 14.A, 15.C, 16.D, 17.D,  
18.C, 19.C, 20.B, 21.A, 22.A, 23.D, 24.D, 25.A, 26.A, 27.B, 28.C, 29. A, 30.D, 31.B, 32.C, 33.C  
34.

Substance	Acid	Base
Sour Milk	√	X
Lemon	√	X
Fermented dough	√	X
Plant ash	X	√

35. A, 36.A, 37.B, 38.A, 39.C, 40.B, 41.D, 42.A, 43.D, 44.A, 45. D, 46. A, 47. C, 48. B, 49. D,  
53. D, 54. A, 55. B, 56. A, 57. D

### 10.2. Structured questions

1. A. Balance the following equations



B. I. Decomposition reaction

ii.  $H_2SO_4$  is added because it conducts electricity.



2. Chemical formula

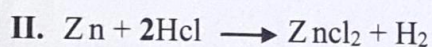
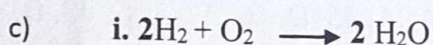
- a. Calcium carbonate =  $\text{CaCO}_3$
- b. Silver nitrate =  $\text{AgNO}_3$
- c. Sulphuric acid =  $\text{H}_2\text{SO}_4$
- d. Hydrochloric acid =  $\text{HCl}$
- e. Copper Sulphate =  $\text{CuSO}_4$

3. i. Matter is made up of Atom which is the smallest unit which the matter is made up of.  
ii. Molecules are in continuous motion  
iii. Molecules of one substance are same in every aspect.

4. a)

- i. **Mixture** is substance which contains two or more substances that are not chemically bound together.
- ii. **Compound** is a substance which is chemically bound together and cannot be separated physically.

b) lithium



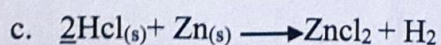
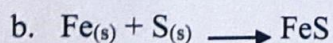
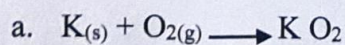
5. a) **Mixtures** are substance which contains two or more substance that are not chemically bound together.

**Compound** is a substance which is chemically bound together.

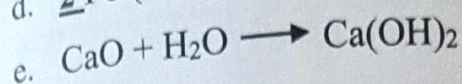
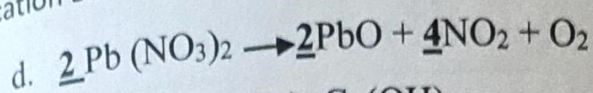
b) Mixtures e.g. rice with beans

Compound e.g. water

6. a) complete and balance







b) two properties of acids are:

- I. Acids have sour taste
- II. Acids conduct electricity

7.

S/No	Type of acids	Where it is found
1	Citric acid	Lemons
2	Ascorbic acid	Fruits and vegetables
3	Lactics acid	Sour milk
4	Hydrochloric acid	In the stomach
5	Nitric acid	Fertilizer and explosive

8. sulphuric acid is used for car batteries because it conducts electricity.

9. A. Salt + water

b. property of acid is have sour taste

property of base have bitter taste

*lactics*

10. A. i. nail

ii. wood floats because wood has less dense than water while the nail sinks in water because the nail has more dense than water

B. i. mass of the water = mass of the container with water – mass of the container alone  
 $= 120\text{g} - 40\text{g} = 80\text{g}$

ii. the volume of the water in the container is  $100\text{cm}^3$

iii. Density =  $\frac{\text{mass}}{\text{volume}} = \frac{80\text{g}}{100\text{cm}^3} = 0.8\text{g/cm}^3$



11. A. I. solid  
ii. liquid  
iii. gas

12.

Substance	Acid	Base
Sour milk	✓	
Saliva		✓
Pure milk	✓	
Vinegar	✓	

13. a.  $\text{volume} = \frac{\text{Mass}}{\text{density}}$

b.  $\text{volume} = \frac{200g}{3.3g/cm^3} = 60.6cm^3$

14. a. properties of acids are:

- acids have sour taste
- acids react with bases to form salts

b. Three physical states of matter are:

- solid e.g. ice
- liquid e.g. water
- gas e.g. steam

15. a. definitions

I. Indicator is a substance which changes color when an acid and base are mixed with it.

Alkali are base which dissolves in water.



16. Matching

Part A	Part B
Lactic	Sour Milk
Sulphuric	Batteries
Citric	Lemon/ Orange
Ascorbic	Vegetables
Tartaric	Grapes

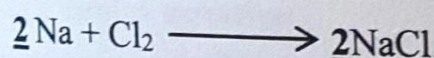
17. a. Separating a mixture of salt and sand

- dissolve salt and sand with water
- filter the solution and sand
- Heat the solution until water evaporates, salt will remain.

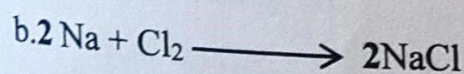
b. the method that you can separate salt and water is evaporation

18. Volume:  $6m \times 2m \times 4m$ :  $48m^3$

19. Balance the equation is



20. a. chemical reaction is when two or more substances combine together and new substance is formed. or chemical reaction is the process by which reactants are converted into products.



21. a. reactants are substances that are changed to form a product in a chemical reaction. Or reactants are initial reagents of the chemical reaction.

b. products are substances that is formed in a chemical reaction or products are final results of the reaction.

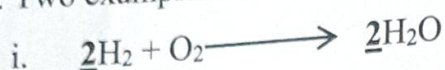


22.

Substance	Acid	Base
Sour milk	✓	
Pineapple	✓	
Vinegar	✓	
Fresh milk		✓
Coffee	✓	
Baking powder		✓

23. a. Chemical equation is a way which shows reactants and products. It must be balanced when written.

b. Two examples about chemical equations:



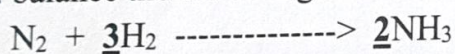
24. a. Acids that we come across in every day life are:

- Citric acid in lemons
- Tannic acid in tea

Bases that we come across in everyday life are:

- Baking powder
- Washing powder

b. balance the following chemical equation



## Unit 11. Answers for multiple choices and structured questions

### 11.1. Multiple choice questions

1. B, 2.B, 3.A, 4.D, 5.D, 6.C, 7.A

## Unit 12. Answers for multiple choices and structured questions

### 12.1. Multiple choice questions

1. A, 2.C



### 3. Answers for multiple choices and structured questions

#### Multiple choice questions

2.A, 3.B

#### Structured Questions

Advantages of free range system

- Reduce cost of feeding.
- Nutritional deficiencies rarely occur because of access to green feed, grains and insects.
- It involves low capital investment.
- It eliminates cannibalism among the birds.

Disadvantages of free range system

- Difficult to control birds, especially during disease outbreak, breeding and feeding.
- Loss of eggs and birds through accidents, theft and predators.
- It requires large of land.

### Unit 14. Answers for multiple choices and structured questions

#### 14.1. Multiple choice questions

1. B, 2.B, 3.A, 4.A, 5. D, 6. D,

#### 14.2. Structured Questions

1. a. Four kinds of energy are:

- I. Heat energy
- II. Mechanical energy
- III. Light energy
- IV. Electric energy

b. Our body gets energy from the food we eat.



2. Five kinds of energy are:

- I. Chemical energy
- II. Sound energy
- III. Kinetic energy
- IV. Potential energy
- V. Magnetic energy

### Unit 15. Answers for multiple choices and structured questions

#### 15.1. Multiple choice questions

1. B, 2. B, 3.A

#### 15.2. Structured questions

1. the gas by which animals require to get energy is oxygen

The gas by which plants require to get energy is carbon dioxide

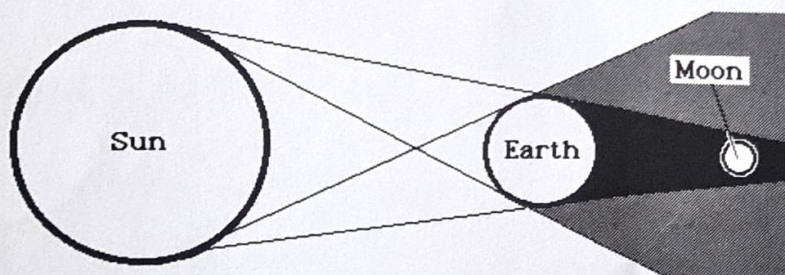
### Unit 16. Answers for multiple choices and structured questions

#### 16.1. Multiple choice questions

1.B, 2.D, 3.A

#### 16.2. Structured questions

1. diagram of lunar eclipse



When the Earth orbits the sun, it comes between the sun and the moon. The Earth throws a shadow across the moon. This is called lunar eclipse or eclipse of the moon.



Unit 17. Answers for multiple choices and structured questions

17.1. Multiple choice questions

1. C, 2.A, 3.A

17.2. Structured questions

1. a. Velocity is the displacement divided by time taken. It is a vector quantity.

Speed is the distance covered by the object divided by time taken to travel. It is scalar quantity.

b. average velocity of an accelerated body can be calculated

$$\frac{\text{Initial Velocity} + \text{Final Velocity}}{2}$$

**THE END**



# Science Workbook with Keys



## Science Workbook With Their Keys

This book contains Science questions with their keys.

The types of questions in this book fall under the following categories:

1. Multiple Choice Questions
2. Structured Questions
3. Short Questions

This book will help primary students to familiarize themselves with the format of Somaliland national examinations are performed and to test themselves the level of their knowledge of Science.

**NOTICE:** First, the students should answer the questions without consulting the keys to the questions. The keys are only intended for reference and checking when the work is done.