

# COMPETENCY BASED ASSESSMENT TEST

**SUBJECT: SCIENCE**  
**CLASS: VI**

**TOTAL MARKS: 100**  
**TIME: 2 HOURS 15 MINS**

Name: \_\_\_\_\_

Roll No: \_\_\_\_\_

School: \_\_\_\_\_

Section: \_\_\_\_\_

Dzongkhag: \_\_\_\_\_

## READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. In this booklet you will find **NINE** questions. You must answer all the questions.
2. Answers to **all** the questions must be written neatly in the spaces provided.
3. Do **not** write during the first **fifteen minutes**. This time is to be spent on reading the questions.
4. You will have **TWO** hours to answer all the questions.
5. You will be allowed to leave the examination room only half-an-hour before the completion of the stipulated time.

(First **FIFTEEN** minutes could be used by the teachers on duty to explain the instructions)

### *For Teachers' use only*

Question	Q 1	Q 2	Q 3	Q 4	Q5					Q6					Q7	
Mark	25	10	10	10	a (2)	bi (2)	Bii (2)	c (1)	d (2)	ai (1)	aii (2)	aiii (2)	b (1)	c (3)	ai (3)	aii (1)
Mark scored																
Initial																
Total																

Question	Q7			Q8						Q9				
Mark	aiii (2)	bi (1)	bii (2)	ai (2)	aii (2)	Bi (1)	bii (1)	ci (1)	cii (2)	ai (1)	aii (3)	aiii (2)	bi (½)	bii (2 ½)
Mark scored														
Initial														
Total														

**Final Marks:** \_\_\_\_\_ **Initial of the tabulator:** \_\_\_\_\_

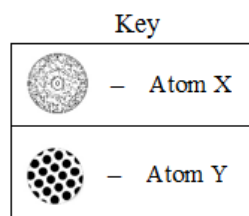


**Question 1****[25 Marks]**

*Direction: For each question, there are four alternatives: A, B, C and D. Choose the correct alternative and circle it. Do not circle more than ONE alternative. If there are more than one choice circled, NO score will be awarded.*

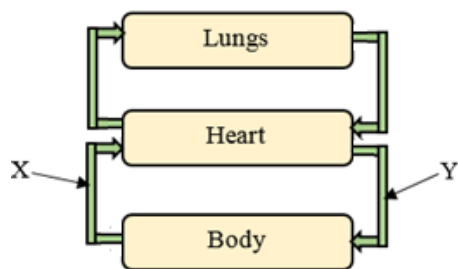
**Question 1.**

- i. When atom X and atom Y combine chemically, it forms



- A atom.
- B compound.
- C element.
- D mixture.
- ii. A student did a litmus test on a fruit juice and the litmus turned red. The student concluded that the juice was
- A sour.
- B bitter.
- C sweet.
- D salty.

- iii. The diagram shows the human transport system.



What are the functions of 'X' and 'Y'?

- A** X carries pure blood and Y carries impure blood.
  - B** X carries impure blood and Y carries pure blood.
  - C** Both 'X' and 'Y' carry pure blood.
  - D** Both 'X' and 'Y' carry impure blood.
- iv. Following are the steps to obtain salt from the sea water. Arrange them in correct sequence.
- I. The sun's heat evaporates the water.
  - II. Iodine is added and packed.
  - III. Sea salt is purified.
  - IV. Sea water is collected in the shallow pits.

The correct steps to obtain salt is

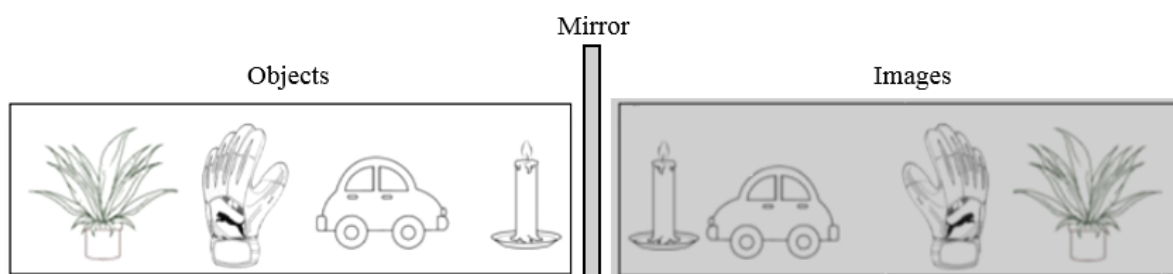
- A** I, II, III and IV.
- B** II, IV, I and III.
- C** III, IV, I and II.
- D** IV, I, III and II.

- v. Farmers these days prefer modern methods of separation. They use pedal thresher to separate rice from stalks after which rice grains are separated from husk by

**A** sieving.  
**B** using magnets.  
**C** winnowing.  
**D** hand picking.

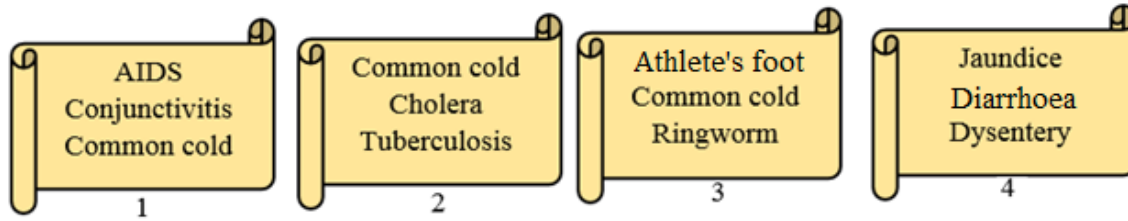
- vi. Study the diagram carefully and answer the given question.

A potted plant, a glove, a toy car and a candle were kept at different distances in front of the mirror. Which is the **incorrect** image formed in the mirror?



**A** car  
**B** tree  
**C** glove  
**D** candle

vii. Study the set of diseases below.



Which set of diseases is caused by virus?

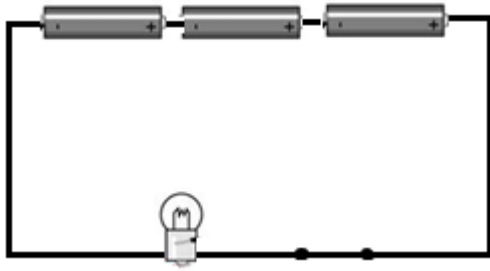
- A** 1
- B** 2
- C** 3
- D** 4

viii. The figure below shows a herd of camels in a desert. They generally compete for

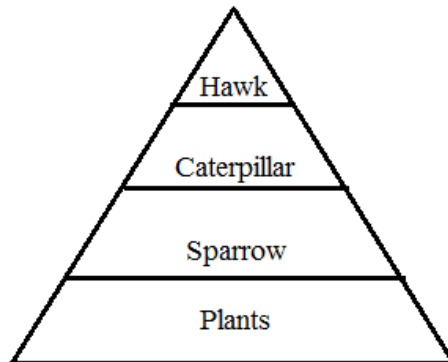


- A** air.
- B** soil.
- C** water.
- D** shelter.

- ix. What is the total voltage in the circuit, if the voltage of one cell is 1.5 volts?



- A** 3V  
**B** 3.5V  
**C** 1.5V  
**D** 4.5V
- x. The figure below shows a food chain pyramid. Which level has the highest number of organisms?

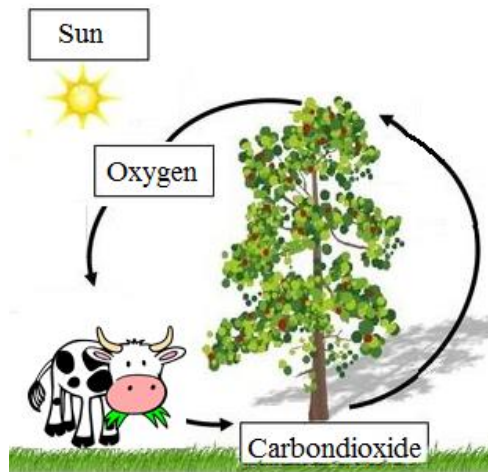


- A** Caterpillar  
**B** Sparrow  
**C** Plants  
**D** Hawk

xi. Kencho bought an aquarium. He wants to place some plants in it. Which group of plants will be most suitable for his aquarium?

- A Mesophytes
- B Xerophytes
- C Lithophytes
- D Hydrophytes

xii. The diagram below gives information about oxygen and carbon dioxide in the atmosphere. Study the diagram below and answer the question.



Which process produces oxygen?

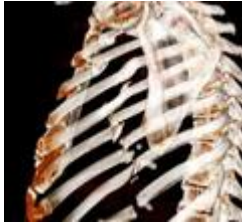
- A Burning
- B Photosynthesis
- C Respiration
- D Fermentation



- xiii. Dawa walked through the street on a sunny day. He saw his own shadow on the wall of the building. The darkest region of his shadow is called
- A** image.
  - B** umbra.
  - C** penumbra.
  - D** antumbra.
- xiv. Poonam has a huge maize field. One day she noticed the leaves were turning yellow. So she visited an agricultural officer to seek the advice. What advice would have been given by the officer to Poonam?
- A** Add Nitrogen in the field.
  - B** Add Magnesium in the field.
  - C** Add potassium in the field.
  - D** Add phosphorus in the field.
- xv. Dema added 10g of sugar in a dry test tube. She heated the sugar for 5-7 minutes. What kind of change had taken place in the test tube?
- A** temporary
  - B** permanent
  - C** reversible
  - D** physical

xvi. Kezang falls down from a wall while playing ninja games with his friends.

An x-ray result was as shown below.



Name the part of the skeleton that is injured.

- A** Skull
- B** Hip bone
- C** Rib cage
- D** Thigh bone

xvii. Look at the diagram below.



Bean seeds

The part of a seed that develops into a new plant is

- A** embryo.
- B** seed coat.
- C** micropile.
- D** cotyledon.

xviii. The example of reptiles given below are



- A** cow and tiger.
  - B** snake and lizard.
  - C** frog and salamander.
  - D** bat and dragonfly.
- xix. A national football player practices the game from 6 AM to 6 PM but gets very tired after the workout. Which group of food would you recommend to the player to get energy?
- A** Water and protein
  - B** Fiber and minerals
  - C** Minerals and vitamins
  - D** Carbohydrates and fats
- xx. Work is a product of force and
- A** mass.
  - B** weight.
  - C** energy.
  - D** distance.
- xxi. The most common eco-friendly energy generated in Bhutan is from
- A** wind.
  - B** wood.
  - C** water.
  - D** fossil fuel.

- xxii. Choden wants to peg three nails on the wall of her room as shown in the figure below:



Which position of the hammer will drive the nail deepest?

- A Hammer 3
  - B Hammer 2
  - C Hammer 1
  - D Hammer 4
- xxiii. A boy stood in front of a mirror. He waved his left hand but he saw his right hand being waved in the mirror. He further crosschecked by waving his right hand and to his surprise he saw his left hand being waved in the mirror. The phenomenon displayed is

- A shadow.
- B refraction.
- C lateral inversion.
- D reflection.

- xxiv. Pema's favourite fruit is apple. While taking the first bite of an apple, she uses

- A molar.
- B canine.
- C premolar.
- D incisor.

xxv. Gopal loves swimming. One day he plans to swim in a river next to his friend's house. His friend warns him that the river is deep however while looking at the river from outside, it appears shallow. This is due

- A** reflection.
- B** refraction.
- C** diffraction.
- D** total internal reflection.

**Question 2.**

**[10 Marks]**

***Direction: Fill in the blanks with appropriate word(s). Write the answers in the spaces provided below.***

- i. To test the strength of an acid in a car battery, \_\_\_\_\_ indicator gives the best result.
- ii. \_\_\_\_\_ process can obtain both salt and water from the salt solution.
- iii. The word 'RETTIB' could be read as \_\_\_\_\_ in the mirror.
- iv. People prefer \_\_\_\_\_ over horse in desert for transportation.
- v. Window panes in toilet are usually made of \_\_\_\_\_ glass.
- vi. Name of the plant that has its leaves reduced to thorns to prevent loss of water is \_\_\_\_\_.
- vii. The change of colour of the leave from pale yellow to blue black during iodine test indicates the presence of \_\_\_\_\_.
- viii. A group of animals that can breathe through the skin is called \_\_\_\_\_.
- ix. Skull protects the \_\_\_\_\_.
- x. When the stretched rubber band is released, it produces \_\_\_\_\_ energy.

**Question 3.****[10 Marks]**

*Direction: Match each item in column I against the most appropriate item in column II. Write only the alphabet against the number in the space provided below.*

Column I		Column II	
i	Elements	a.	a boy standing
ii	Softening of water	b.	sugar
iii	Adulteration of milk	c.	climate and weather
iv	Work done is zero	d.	poles
v	Solute	e.	transparent
vi	Rotting of meat	f.	miscible liquid
vii	Latitudes	g.	translucent
viii	Magnetic strength	h.	periodic table
ix	Waxed paper	i.	newton
x	Weight	j.	boiling
		k.	permanent change

- i. \_\_\_\_\_
- ii. \_\_\_\_\_
- iii. \_\_\_\_\_
- iv. \_\_\_\_\_
- v. \_\_\_\_\_
- vi. \_\_\_\_\_
- vii. \_\_\_\_\_
- viii. \_\_\_\_\_
- ix. \_\_\_\_\_
- x. \_\_\_\_\_

**Question 4.**

**[10 Marks]**

***Direction: Write TRUE or FALSE against each statement in the space provided.***

- i. Tooth decay is caused by the formation of base. (\_\_\_\_\_)
- ii. Higher the pH number, stronger the alkali. (\_\_\_\_\_)
- iii. When there is no sunlight for more than 24 hours, it is called polar day. (\_\_\_\_\_)
- iv. Lithophytes are plants that grow on the cracks of rocks. (\_\_\_\_\_)
- v. Flowers pollinated by wind are small and dull in colour. (\_\_\_\_\_)
- vi. Denser the liquid better it is in helping the object to sink. (\_\_\_\_\_)
- vii. The gravity of the Earth is more than the Moon. (\_\_\_\_\_)
- viii. We use lever to hoist a flag. (\_\_\_\_\_)
- ix. Flying Lizard is an example of Bird. (\_\_\_\_\_)
- x. It is not healthy to eat junk food. (\_\_\_\_\_)



**Direction:** Answer the following questions as directed and the answers must be written in the space provided. The marks for each question are given in the brackets [ ].

**Question 5.**

**[9 Marks]**

- a. Pema drinks coka-cola during meals. Do you think it is a good habit? What advice would you give her? **[2]**

.....

.....

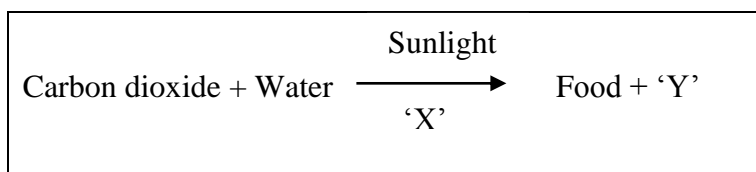
.....

.....

.....

.....

- b. Given below is a sequence of events to show formation of food in plants.



- i. Identify 'X' and 'Y'. **[2]**

.....

.....

.....

- ii. Give a suitable definition for the above process. **[2]**

.....

.....

.....

.....

.....

- c. Given below are liquids. Identify, which liquids are miscible with each other. [1]

Honey and water	Oil and water	Kerosene and water	Water and blood
-----------------	---------------	--------------------	-----------------

.....

.....

.....

- d. In an experimental demonstration, a marble and a feather were being dropped from the same height at the same time. It was found that the marble hit the ground faster than the feather. What could have caused such difference?

Justify with **TWO** reasons.

[2]

.....

.....

.....

.....

.....

.....

.....

**Question 6.**

[9 Marks]

- a. i. What would happen if the chemical changes stop taking place in human being? [1]

.....

.....

.....

.....

.....

.....

.....

- ii. In an experiment, a teacher tells the students to be careful while handling iron filings. She tells her students not to play with it and use hand gloves to sprinkle the iron filings for the experiment. Why did the teacher ask the students to use hand gloves to sprinkle the iron filings? [2]

.....

.....

.....

.....

.....

.....

.....

- iii. Design a parallel circuit using the following materials. [2]
- a dry cell
  - two bulbs
  - wire
  - two switches

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....



ii. Can sound travel in vacuum? [1]

.....

.....

iii. Dema is a Class VI student. While studying about elements, she found it easier to learn using symbols. Do you agree or disagree?  
Give **TWO** reasons for your answer. [2]

.....

.....

.....

.....

.....

.....

b. i. Imagine what would be life like on Earth without photosynthesis. [1]

.....

.....

.....

.....

.....

.....

.....

.....

- ii. Chungku's mother does not allow her to go out during eclipse as her mother believes that it brings bad luck. Do you believe it? Justify. [2]

.....

.....

.....

.....

.....

.....

**Question 8.** [9 Marks]

- a. i. A man went to hospital for a checkup as he was suffering from stomach acidity. He was prescribed antacid tablet and accordingly he took the medicine. What type of change took place? Give reasons to support your answer. [2]

.....

.....

.....

.....

.....

.....

- iii. A science teacher uses separating funnel in his class for teaching. What concept is being taught in this context? [2]

.....

.....

.....

.....

- b. i. Give **TWO** examples of low pitched sound. [1]

.....

.....

.....

.....

.....

.....

ii. Describe **TWO** characteristics of an infant. [1]

.....

.....

.....

.....

.....

.....

c. A student was asked to prepare a set up to study about germination. He brought soil, jars, bean seeds and water. Based on the experiment given above, answer the following questions.

i. Will the seeds germinate? [1]

.....

.....

.....

ii. Give reasons to support your answer. [2]

.....

.....

.....

.....

.....

.....

**Question 9.****[9 Marks]**

- a. i. Rigsel is a good boy. He wakes up early in the morning, brushes his teeth, takes bath and gets dressed up for the school. Name **TWO** alkalies used by Rigsel. **[1]**

.....

.....

.....

.....

.....

.....

- ii. Study the adaptive characteristics of the animals and their functions as given in the table below. Complete the table by filling in the blanks. **[3]**

Adaptive characteristics	Function
1 _____	Helps to breathe in water
Streamlined body	2 _____
3 _____	Prevents the entry of water into the body

- iii. Name two common magnets used in the science experiments in your school. **[2]**

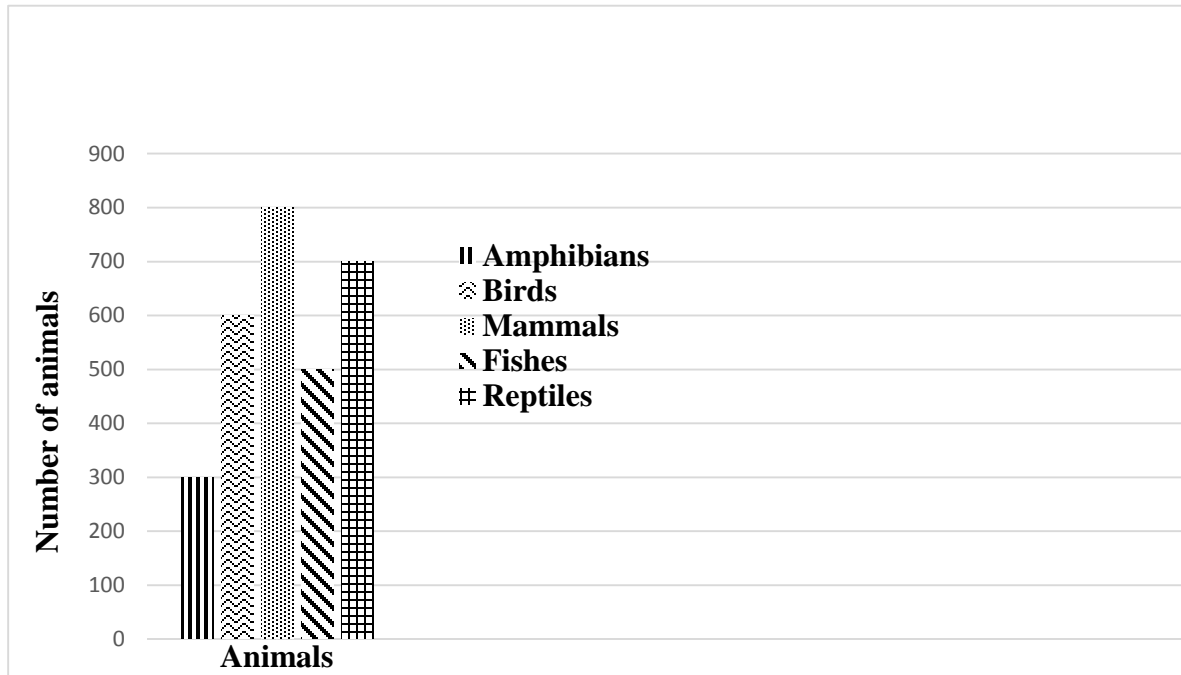
.....

.....

.....



- b. Study the bar-graph of different groups of animals and answer the following questions.



- i. What is the total population of reptiles, amphibians and fish? [1/2]

.....

.....

.....

.....

- ii. Which group of animals do you belong? Give **TWO** reasons. [2 1/2]

.....

.....

.....

.....

.....

.....