

## COMPETENCY BASED ASSESSMENT TEST

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

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

|                  |                |
|------------------|----------------|
| Name: _____      | Roll No: _____ |
| School: _____    | Section: _____ |
| Dzongkhag: _____ | Gender: _____  |

**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*

| Questi<br>on   | Q<br>1 | Q<br>2 | Q<br>3 | Q<br>4 | Q5        |            |           |            |             | Q6       |           |            |             |           | Q7         |           |            |
|----------------|--------|--------|--------|--------|-----------|------------|-----------|------------|-------------|----------|-----------|------------|-------------|-----------|------------|-----------|------------|
| Mark           | 25     | 10     | 10     | 10     | ai<br>(3) | aii<br>(1) | bi<br>(1) | bii<br>(2) | biii<br>(1) | c<br>(1) | ai<br>(2) | aii<br>(1) | aiii<br>(1) | bi<br>(2) | bii<br>(2) | ai<br>(1) | aii<br>(1) |
| Mark<br>scored |        |        |        |        |           |            |           |            |             |          |           |            |             |           |            |           |            |
| Initial        |        |        |        |        |           |            |           |            |             |          |           |            |             |           |            |           |            |
| Total          |        |        |        |        |           |            |           |            |             |          |           |            |             |           |            |           |            |

| Question       | Q7        |            |          |          | Q8        |            |             |            |          | Q9       |          |          |          |          |          |          |  |
|----------------|-----------|------------|----------|----------|-----------|------------|-------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|--|
| Mark           | bi<br>(1) | bii<br>(1) | c<br>(4) | d<br>(1) | ai<br>(1) | aii<br>(1) | aiii<br>(1) | aiv<br>(3) | b<br>(1) | c<br>(2) | a<br>(2) | b<br>(1) | c<br>(2) | d<br>(1) | e<br>(2) | f<br>(1) |  |
| Mark<br>scored |           |            |          |          |           |            |             |            |          |          |          |          |          |          |          |          |  |
| Initial        |           |            |          |          |           |            |             |            |          |          |          |          |          |          |          |          |  |
| Total          |           |            |          |          |           |            |             |            |          |          |          |          |          |          |          |          |  |

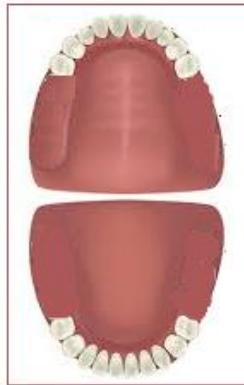
Final Marks: \_\_\_\_\_ Initial of the tabulator: \_\_\_\_\_



**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.**

i. Observe the picture given below carefully and answer the following question.



What difficulties would you face while eating?

- A** tearing and biting
- B** tearing and chewing
- C** biting and grinding
- D** chewing and grinding

ii. The symbol of zinc is Zn. What is the symbol of silver?

- A** Au
- B** Hg
- C** Ag
- D** Mg

iii. Sonam was washing utensils and he accidentally broke an earthen pot. The change that has taken place is

- A** physical change.
- B** natural change.
- C** chemical change.
- D** irreversible change.

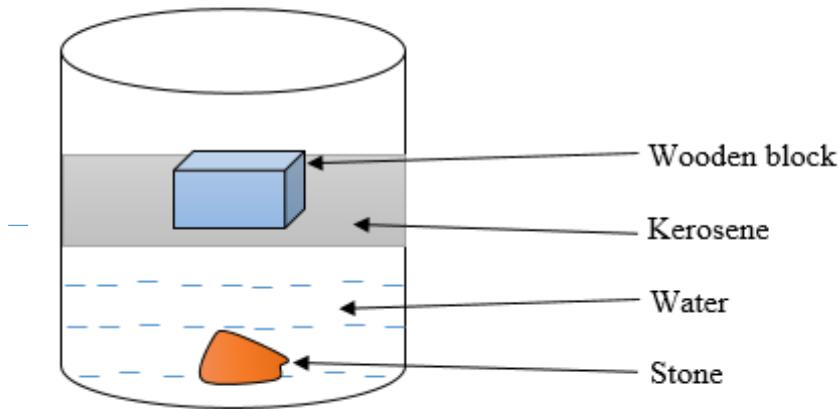
iv. A mixture of alcohol and water can be separated by distillation. The condition required to separate the mixture is

- A** different boiling points.
- B** same boiling points.
- C** low boiling points.
- D** high boiling points.

v. The unit of weight is

- A** kg.
- B** kgf.
- C** km.
- D** m.

vi. Different substances have different densities. Which of the following statements is correct with regard to the figure given below?



- A Water is denser than stone and kerosene.
- B Kerosene is denser than water and wooden block.
- C Wooden block is denser than stone, kerosene and water.
- D Stone is denser than water, kerosene and wooden block.

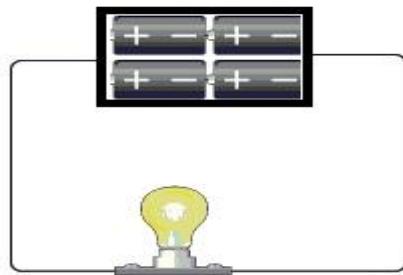
vii. Which of the following is **NOT** the characteristic of image formed by a plane mirror?

- A erect
- B virtual
- C laterally inverted
- D smaller than the size of the object

viii. Frosted glass can allow some amount of light to pass through. It cannot be used for making windshield of a car because

- A it is expensive.
- B it breaks easily.
- C it gets scratched easily.
- D the driver would not be able to see clearly.

ix. What is the total voltage received by the bulb in the figure given below?



- A** 4 V
- B** 5 V
- C** 6 V
- D** 7 V

x. Magnetic lines of force start from

- A** North Pole to South Pole.
- B** South Pole to North Pole.
- C** North Pole to North Pole.
- D** South Pole to South Pole.

xi. Plant X is adapted to grow in dry conditions. It has smaller leaves and fewer branches.

The plant X is

- A** cactus.
- B** pistia.
- C** hydrilla.
- D** solanum.

xii. Common cold is caused by

- A** virus.
- B** fungi.
- C** bacteria.
- D** parasites.

xiii. Which of the following characteristics of flower favours insect-pollination at night?

- A** small and dull coloured petal
- B** brightly coloured petal
- C** lots of pollen
- D** pleasant smell

xiv. Study the figure given below.



I



II



III



IV

Identify the animal which suckles its young ones.

- A** IV
- B** III
- C** II
- D** I

xv. The primary nutrients consist of

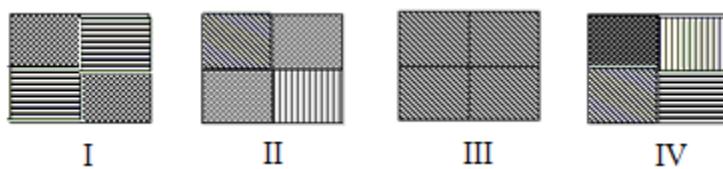
- A** potassium, magnesium and nitrogen.
- B** potassium, calcium and phosphorus.
- C** potassium, nitrogen and phosphorus.
- D** phosphorus, nitrogen and calcium.

xvi. An animal with hollow and light bones is

- A** pigeon.
- B** frog.
- C** lion.
- D** fish.

xvii. An element is made up of only one kind of particle.

Which of the following figures shows an element?



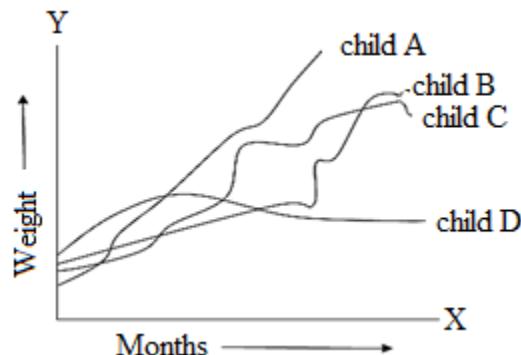
A I

B II

C III

D IV

xviii. Study the graph and answer the following question.



Which child is healthy?

A child A

B child B

C child C

D child D

xix. Dawa and Dema wish to make a see-saw. Name the simple machine that they would use.

- A** pulley
- B** lever
- C** wheel and axle
- D** inclined plane

xx. The following figure is related to work done.



Work done will be zero in the figure

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

xxi. The form of energy present in a stretched elastic band is

- A** kinetic energy.
- B** radiant energy.
- C** potential energy.
- D** chemical energy.

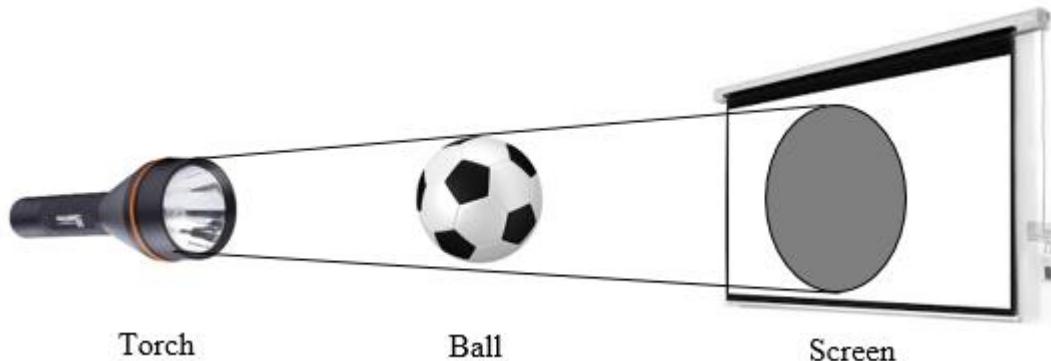
xxii. Dead remains of plants and animals buried under the Earth millions of years ago are called

- A** fossil.
- B** petrol.
- C** diesel.
- D** coal.

xxiii. When there is continuous light for more than 24 hours, it is called

- A** polar day.
- B** polar night.
- C** solar eclipse.
- D** lunar eclipse.

xxiv. The figure given below represents lunar eclipse.



What does the ball represent?

- A** Moon
- B** Earth
- C** Sun
- D** Star

xxv. The imaginary line that divides the Earth into two equal halves is

- A** longitude.
- B** latitude.
- C** equator.
- D** axis.

**Question 2.****[10 Marks]**

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

- i. Bottled mineral water is an example of \_\_\_\_\_ water.
- ii. Frying an egg is \_\_\_\_\_ change.
- iii. Sound requires \_\_\_\_\_ to travel through.
- iv. Breathing is a \_\_\_\_\_ pitched sound.
- v. The gas used during photosynthesis is \_\_\_\_\_.
- vi. Ovary develops into \_\_\_\_\_.
- vii. The animals with moist and slimy skin are called \_\_\_\_\_.
- viii. The front four teeth in each jaw are called \_\_\_\_\_.
- ix. A rolling stone possesses \_\_\_\_\_ energy.
- x. Bhutan lies in the \_\_\_\_\_ hemisphere.

**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        | Symbol             | a.        | repel               |
| ii       | Oil and water      | b.        | iron filings        |
| iii      | Pull of the Earth  | c.        | gravitational force |
| iv       | Bending of light   | d.        | separating funnel   |
| v        | Magnetic substance | e.        | iodine              |
| vi       | Like poles         | f.        | bacteria            |
| vii      | Curdling of milk   | g.        | reflection          |
| viii     | Starch test        | h.        | element             |
| ix       | Muscles            | i.        | water tap           |
| x        | Wheel and axle     | j.        | movement            |
|          |                    | k.        | refraction          |

|       |
|-------|
| 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. An atom may or may not have free existence. (\_\_\_\_\_)
- ii. Maize thresher is a modern method of separation. (\_\_\_\_\_)
- iii. Mixture of milk and water can be separated by decantation. (\_\_\_\_\_)
- iv. Transparent objects cast shadow. (\_\_\_\_\_)
- v. Parallel circuit is not suitable for household wiring. (\_\_\_\_\_)
- vi. “Omnivores are the animals that eat both plants and animals”. An omnivore can be both primary as well as secondary consumer. (\_\_\_\_\_)
- vii. Maize, rice and peas are insect-pollinated plants. (\_\_\_\_\_)
- viii. Lion is a cold-blooded animal. (\_\_\_\_\_)
- ix. Doctors are replacing damaged heart with a special artificial pumping machine because our heart pumps blood to other parts of the body. (\_\_\_\_\_)
- x. Energy cannot change from one form to another. (\_\_\_\_\_)

**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.i. Sort the following objects into acids and alkalis in the table given below. Write only the names of the objects. [3]



Vinegar



Soap



Lemon



Toothpaste



Orange



Bitter gourd

| Acid | Alkali |
|------|--------|
| i.   | i.     |
| ii.  | ii.    |
| iii. | iii.   |

ii. Tick (✓) the box that shows the pH range of a strong alkali. [1]

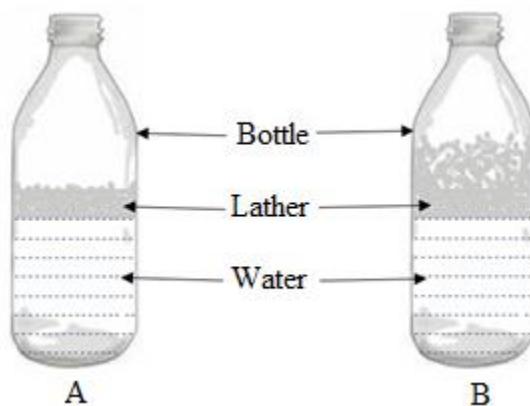
pH 1 - 3

pH 5 – 8

pH 9 – 12

pH 12 – 14

b. Raju tested the hardness of water from two different sources. His observation is given in the figure below.



i. Which bottle contains hard water? [1]

ii. If you want to wash your clothes, which bottle of water would you choose? Why? [2]

iii. Write **TWO** minerals present in bottle A. [1]

c. Wangmo went for trekking from Samdrup Jongkhar to Merak and found that her weight had decreased. What would have happened to her mass? [1]

**Question 6. [9 Marks]**

a. You are provided with the following substances to make tea.



Water



Milk powder



Sugar



Tea leaves

i. Write down the steps to make tea. [2]

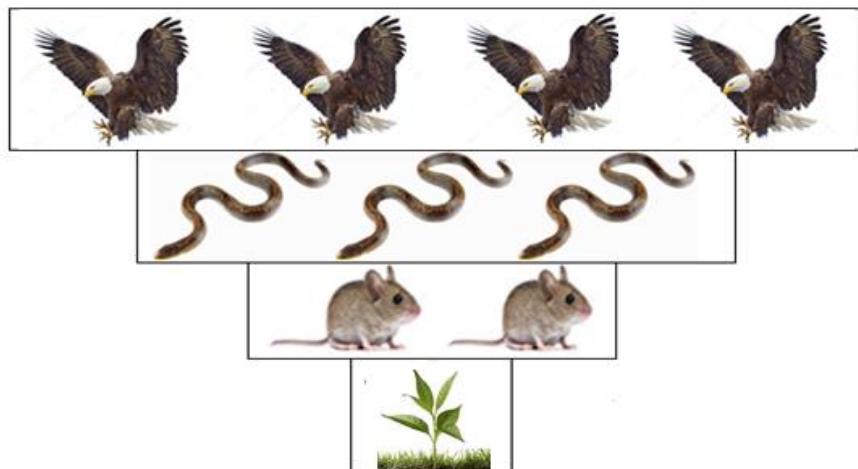
  
  
  
  

ii. Identify one solute and one solvent from the above substances. [1]

iii. Name **ONE** solute that you use at home.

[1]

b. Study the picture given below and answer the following questions.



i. Is the food pyramid stable? Why?

[2]

ii. Draw a food chain having four organisms.

[2]

iii. Why are plants known as producers?

[1]

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**Question 7.**

**[9 Marks]**

a. Study the figure given below and answer the questions that follow.



i. Air, water and sunlight are the basic needs for plants to grow.

What would happen to plants if there is no water?

[1]

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ii. Name the nutrient that helps in the growth of green parts of a plant.

[1]

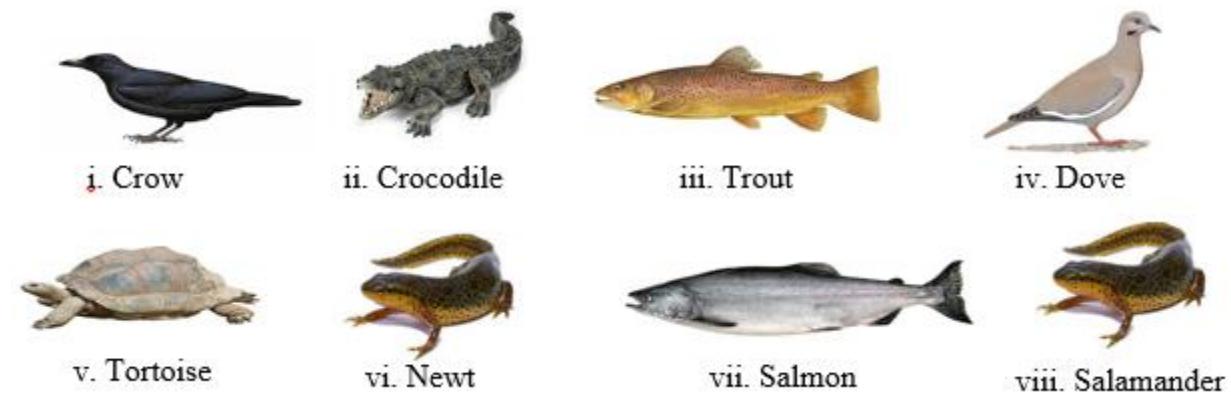
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b.i. An Indian origin coconut species is found growing on the river bank of another country.  
What agent could be responsible for the dispersal of that coconut seed? [1]

ii. What is the function of cotyledon in a seed? [1]

c. Study the figure given below and complete the table. Write only the numbers in each category. [4]



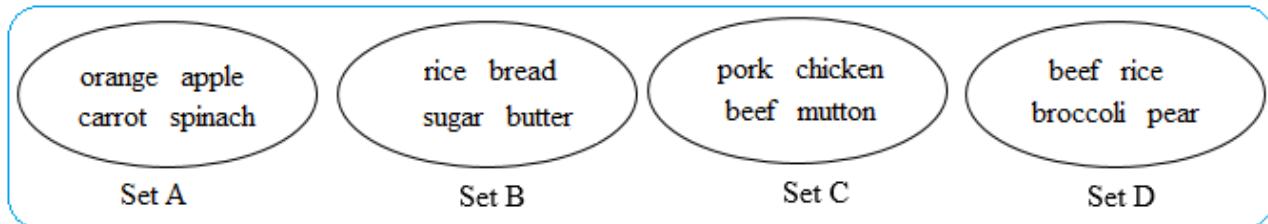
| Bird | Fish | Reptile | Amphibian |
|------|------|---------|-----------|
|      |      |         |           |
|      |      |         |           |

d. What is the relationship between mass and weight? [1]

### Question 8.

[9 Marks]

a. Answer the following questions based on the sets of foods given below.



i. What is a balanced diet? [1]

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ii. Which set of foods shows a balanced diet? [1]

For more information, contact the Office of the Vice President for Research and Economic Development at 319-273-2500 or [research@uiowa.edu](mailto:research@uiowa.edu).

iii. Why is a balanced diet important? [1]

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iv. Which two sets of foods would you choose to eat more if you often fall sick?

Give reason.

[3]

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b. Why are North Pole and South Pole covered with ice throughout the year? [1]

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c. Write **TWO** differences between latitude and longitude. [2]

| Latitude | Longitude |
|----------|-----------|
|          |           |
|          |           |

**Question 9.** [9 Marks]

a. How would you feel if there is no sunlight? [2]

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b. Why is the word AMBULANCE written in reversed order? [1]

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c. You are provided with two batteries, three bulbs, three switches and wires. Draw a parallel circuit using all the materials. [2]

d. Why are magnets of different shapes and sizes? [1]

1. **What is the primary purpose of the proposed legislation?**

e. Two stones of 3 kg and 6 kg are dropped from the top of a building. Which stone will hit the ground harder? Why? [2]

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f. What is the disadvantage of using nuclear fuel? [1]

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