

# #UnicusIsUnique

# **Sample Paper**



Class 2

(1983) 2197

010

# **Unicus Global Science Olympiad (UGSO)**

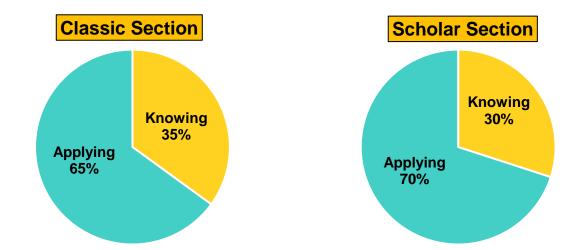
#### **Time: 60 minutes**

| Pattern and Marking Scheme |                    |                       |                |  |  |  |  |  |  |
|----------------------------|--------------------|-----------------------|----------------|--|--|--|--|--|--|
| Section                    | Total<br>Questions | Marks per<br>Question | Total<br>Marks |  |  |  |  |  |  |
| Classic Section            | 20                 | 1                     | 20             |  |  |  |  |  |  |
| Scholar Section            | 10                 | 2                     | 20             |  |  |  |  |  |  |
| Grand Total                | 30                 |                       | 40             |  |  |  |  |  |  |

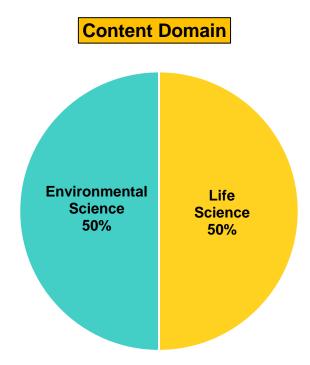
The Unicus Global Olympiad is organised around two dimensions:

- 1. Content dimension, specifying the subject matter domains to be assessed
- 2. Cognitive dimension, specifying the thinking processes to be assessed

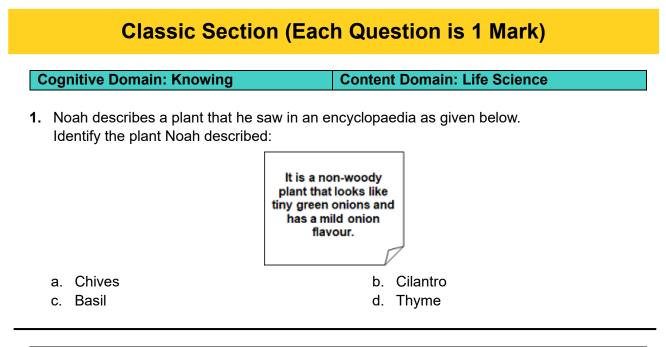
## Target percentages of the question paper devoted to cognitive domains



Target percentages of the question paper devoted to content domains



For more details, visit https://www.unicusolympiads.com/.

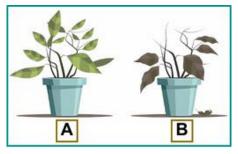


Cognitive Domain: Applying

**Content Domain: Life Science** 

2. Brian planted two plants in different pots and kept them side by side in his garden. Plant A was with roots while plant B was without roots. After a few days, it was observed that the leaves of plant B turned brown and wilted.
What is the possible reason behind this phenomenon?

What is the possible reason behind this phenomenon?



- a. The brown colour might be because plant B didn't get any sunshine.
- b. Plant B couldn't absorb water and nutrients because it had no roots.
- c. Plant B didn't get enough space to grow.
- d. Plant B could not absorb air.

#### Cognitive Domain: Applying

#### Content Domain: Life Science

**3.** Refer to the given word grid and answer the question that follows: Which of the following is NOT HIDDEN in the given word grid?

| S | R | Ρ | L | С | Α | Ρ |
|---|---|---|---|---|---|---|
| С | Α | С | Α | 0 | s | Е |
| N | т | м | ۷ | F | D | Ρ |
| Т | Y | R | С | F | F | Ρ |
| М | U | w | x | Е | G | Е |
| к | Т | Q | z | Е | н | R |

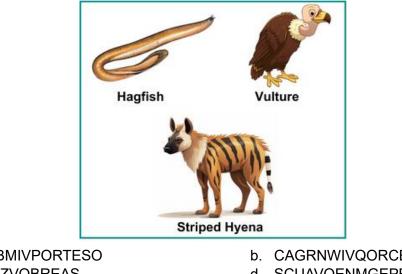
- a. This plant is used to make a popular hot beverage often enjoyed in the morning.
- b. This plant product is often used as a seasoning and comes from dried seeds.
- c. This plant gives us chocolate.
- d. This is a spice, commonly used in cooking and comes from the bark of a tree.

#### **Cognitive Domain: Applying**

#### **Content Domain: Life Science**

4. The animals seen in the box below are certain types of animals based on their eating habits. Identify the type of animals.

(You will get the name of such animals by crossing every third letter in the given options.)

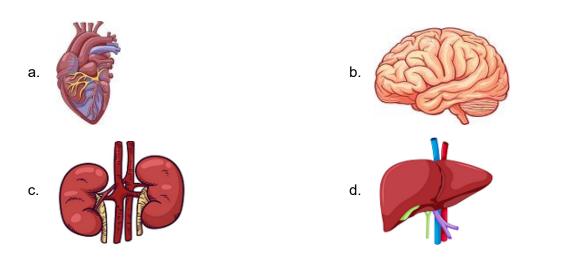


- a. HEGRBMIVPORTESO
- c. OMFNIZVOBREAS

b. CAGRNWIVQORCESL

d. SCUAVOENMGEPRSZ

5. Lucy was solving difficult math problems for homework. Identify the internal organ Lucy is using the most to solve the math problems.



#### **Cognitive Domain: Applying**

**Content Domain: Life Science** 

6. Timothy accidentally touched a hot utensil and quickly pulled his hand away. Identify which organ system detected the heat and which one helped him to move his hand away.

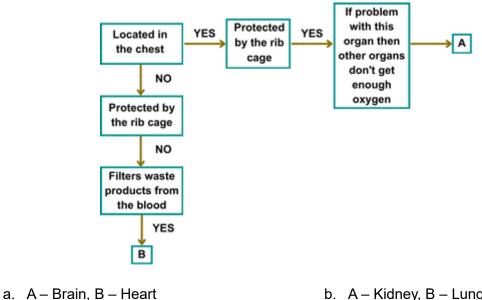


- a. The respiratory system detected the heat and the nervous system helped to move the hand away.
- b. The digestive system detected the heat and the respiratory system helped to move the hand away
- c. The nervous system detected the heat and the muscular system helped to move the hand away.
- d. The circulatory system detected the heat and the skeletal system helped to move the hand away.

**Cognitive Domain: Applying** 

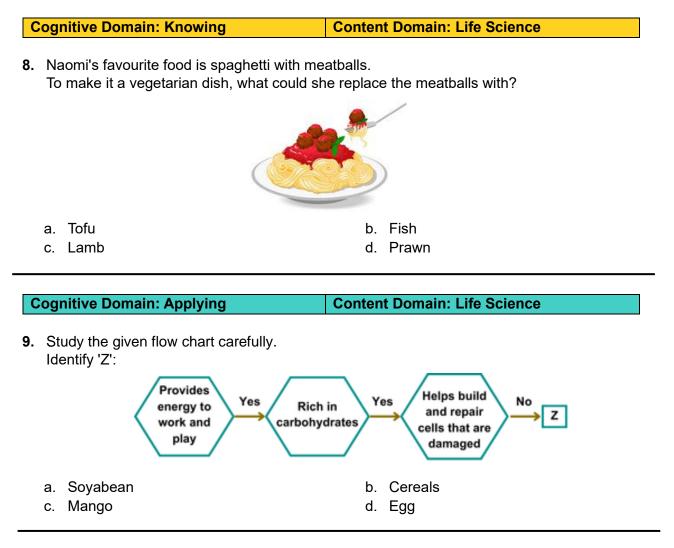
**Content Domain: Life Science** 

7. Consider the diagram given below. Based on the following descriptions, identify the MOST LIKELY internal organs for each category (A and B).



c. A – Stomach, B – Liver

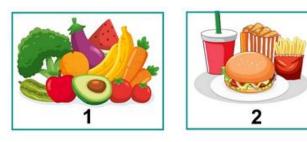
- b. A Kidney, B Lungs
- d. A Heart, B Kidney



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Cognitive Domain: Applying
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#### Content Domain: Life Science

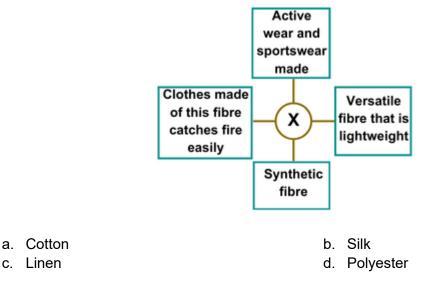
**10.** Harold pasted two pictures namely 1 and 2 in his notebook related to foods as shown below: Choose the relevant statement regarding the pictures given:



- a. Foods in 1 should be eaten sparingly.
- b. Foods in 2 help to boost immunity.
- c. Increased intake of foods in 2 will lead to obesity.
- d. Foods in 1 helps us to repair our body when injured.

#### **Cognitive Domain: Applying Content Domain: Environmental Science**

**11.** The characteristic of material X is described by the chart given below: Which of the following fibres is being described as X?



| Cognitive Domain: Applying | Content Domain: Environmental Science |
|----------------------------|---------------------------------------|
|                            |                                       |

12. Denzel is planning to go hiking on a hot summer day. Which type of clothing should he wear to stay comfortable?



- a. A lightweight, breathable t-shirt and shorts
- b. A thick woollen sweater and jeans
- c. A long-sleeved cotton sweatshirt and trousers
- d. A raincoat and flip-flops

c. Linen

#### **Cognitive Domain: Knowing**

#### **Content Domain: Environmental Science**

- **13.** Look at the images of different road transport and answer the following:
  - 1. Identify the means of road transport that cannot carry more than 2 people.
  - 2. Identify the means of road transport that can carry the whole family and their belongings to a picnic destination.



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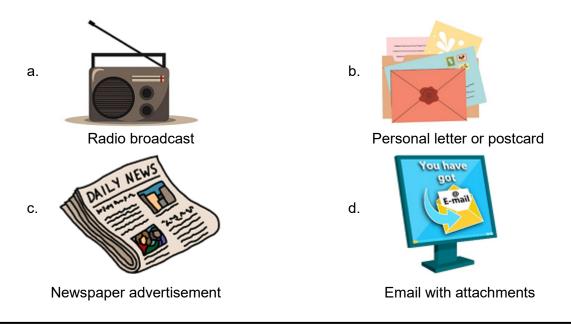
- a. 1 Bus, 2 Truck
- c. 1 Taxi, 2 Scooter

- b. 1 Scooter, 2 Car
- d. 1 Truck, 2 Bus

#### **Cognitive Domain: Knowing**

**Content Domain: Environmental Science** 

**14.** Leslie wants to share vacation photos with his friends and family scattered across the globe. Which means of communication is most suitable and fastest for this purpose?



#### **Cognitive Domain: Applying**

**Content Domain: Environmental Science** 

**15.** Study the given word chop table.

Which of the following sets of boxes will give the names of means of communication that is-

- A. used for broadcasting news and music to the public?
- B. used for sending written messages with the help of the internet?

| 1<br>NE         | 2<br>RA | <sup>3</sup> ws | 4<br>GE          | <sup>5</sup> sт |
|-----------------|---------|-----------------|------------------|-----------------|
| <sup>6</sup> UR | 7<br>E  | 8<br>DI         | 9<br>PA          | <sup>10</sup> 0 |
| 11              | 12      | 13              | <sup>14</sup> IK | 15              |
| ES              | PH      | MA              |                  | IL              |
| 16              | 17      | 18              | 19               | <sup>20</sup> S |
| IS              | AT      | PE              | GH               |                 |

a. A - 2, 8, 10; B - 7, 13, 15;

c. A - 7, 13, 19; B - 2, 8, 10;

b. A - 1, 3, 9, 18, 19; B - 4, 5, 6, 7;
d. A - 12, 10, 14; B - 2, 8, 10;

**Cognitive Domain: Knowing** 

smoke.

- 16. Choose the correct option regarding the two statements written below. Statement 1: Emma rides her bicycle to school instead of asking her mom to drive her car. Statement 2: Sophie throws her kitchen trash in the bin and does not burn it as it will create
  - a. Both of them are increasing air pollution.
  - c. Only Emma is reducing air pollution.

| Cognitive | Domain: | Applying |
|-----------|---------|----------|
|-----------|---------|----------|

**17.** A boy was sucking juice from the straw, the liquid rises in it as seen in picture 1. It is easier to row the boat when the wind is blowing behind you as seen in picture 2.

Which property of air is demonstrated in these two activities?

- a. Air is required for burning
- c. Air exerts pressure

- b. Air can be compressed
- d. Air takes up space

**Cognitive Domain: Applying** 

**Content Domain: Environmental Science** 

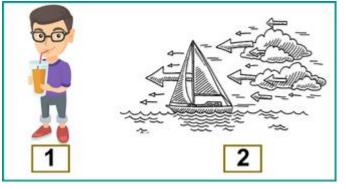
**18.** David was blowing more air into the campfire and the flames were growing bigger. Which property of air is demonstrated here?

### a. Air can push things

- c. Air has weight

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- b. Air helps things take on different shapes
- d. Air is necessary for burning



- **Content Domain: Environmental Science**
- b. Both of them are reducing air pollution.

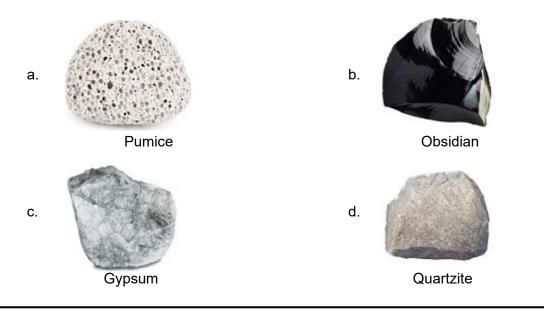
  - d. Only Sophie is reducing air pollution.

**Content Domain: Environmental Science** 

#### Cognitive Domain: Applying

**Content Domain: Environmental Science** 

**19.** Amy is a geologist doing research on volcanic regions. She is particularly interested in a rock that forms from volcanic glass, is porous and used as an abrasive for cleaning and polishing. Which rock is she studying?



#### Cognitive Domain: Applying

**Content Domain: Environmental Science** 

**20.** Refer to the given word grid and answer the question that follows: Which of the following minerals is NOT HIDDEN in the given word grid?

| D | Т | Α | М | 0 | Ν | D | Q |
|---|---|---|---|---|---|---|---|
| S | G | С | н | J | L | Т | U |
| w | Е | R | Т | U | Q | Х | Α |
| S | Т | L | Ι | С | Α | М | R |
| Α | Q | Ζ | Α | С | В | Ν | Т |
| Ε | 0 | R | Ν | В | R | S | Ζ |

- a. It is a mineral that is used to make watch dials.
- b. A soft mineral that is used to make pencil lead and polishes.
- c. It is the hardest mineral found in nature and is used to make beautiful jewellery and cut glass.
- d. This mineral is used to make glass, like the glass in windows or bottles.

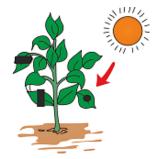
# Scholar Section (Each Question is 2 Marks)

Cognitive Domain: Applying

**Content Domain: Life Science** 

**21.** During a science experiment, Jordan covered a part of a plant's leaves with a piece of dark paper. After a few days, he noticed that the covered part of the leaves turned brown, while the rest of the leaf remained green.

What does this experiment prove?



- a. Leaves do not need sunlight to stay green.
- b. The covered part of the leaf was protected from insects.
- c. Sunlight is necessary for leaves to make food for the plant that will not occur in the covered area.
- d. Dark paper can turn leaves brown in colour.

#### Cognitive Domain: Applying

**Content Domain: Life Science** 

**22.** Read the given statements made by four students about senses.

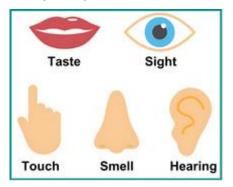
Ronny – I love the smell of shoe polish when I polish my shoes.

Timmy – The grass felt soft and a bit wet from the morning dew.

George – I like watching football on television.

Mary – At the carnival, I bought some salty popcorn.

Now select the correct option regarding this:



- a. George used the sense which helps us to identify a black and white object.
- b. Timmy used the sense which helps us to choose a good perfume.
- c. Mary used the sense which helps us to respond to a doorbell.
- d. Ronny used the sense which helps to differentiate between hot and cold chocolate.

#### **Cognitive Domain: Knowing Content Domain: Environmental Science**

23. Minnie uses a shopping bag made of plant fibre obtained from the stem of the plant, which is strong and biodegradable as well. Identify the fibre correctly by unscrambling the letters:

a. ONTCOT

c. TJEU

b. YNLNO d. LOWO

**Cognitive Domain: Applying** 

#### **Content Domain: Environmental Science**

24. Study the given table and identify transport A and B correctly:

| Features                         | Transport 'A' | Transport 'B' |
|----------------------------------|---------------|---------------|
| Used for rescue operations       | No            | Yes           |
| during floods and earthquakes    |               |               |
| Can travel underground in cities | Yes           | No            |
| Can be owned by people for       | No            | Yes           |
| personal use                     |               |               |

- a. Transport A Submarine, Transport B Hot air balloon
- b. Transport A Car, Transport B Bus
- c. Transport A Metro, Transport B Helicopter
- d. Transport A Ferry, Transport B Metro

Direction (for questions 25 to 27): Carefully read the given passage and answer the following questions.

Different animals live in various habitats that suit their needs. A habitat is a place where there are both living and non-living things. Many habitats overlap each other and they can be of different sizes. Many animals and plants make their home in a habitat. A habitat includes plants and animals along with many non-living things like rocks, sand, dirt or soil and water. For plants and animals to survive, they need air, water, food and shelter.

For instance, a squirrel who needs nuts to survive would not find that in a desert or grasslands and thus require nut-bearing plants and trees to survive,

Each habitat provides the resources necessary for the animals living there to survive and thrive.



#### **Cognitive Domain: Applying**

**Content Domain: Life Science** 

25. Study the given relationship based on their adaptations and select the pair of animals that live in the same habitat:

Gibbon : Koala Bear

- a. Salamander : Newt
- c. Polar bear : Snake

- b. Pigeon : Monkey
- d. Poison tree frog : Arctic fox

#### **Cognitive Domain: Applying**

**Content Domain: Life Science** 

- **26.** Jamie found a small bird's nest high up on a tree in his backyard. Why is this location good for the bird?
  - a. It helps the bird find more food.
  - b. It keeps the bird and its eggs safe from predators.
  - c. It helps the nest to get direct sunlight and make the nest warmer.
  - d. It helps the bird to get fresh air.

Cognitive Domain: Knowing Content Domain: Life Science

27. Why do frogs need to live near water?

- a. To play around and stay warm.
- c. To keep their skin moist and lay their eggs
- b. To find plenty of food.
- d. To stay away from predators.

**Direction (for questions 28 to 30):** Carefully read the given passage and answer the following questions.

A house is a construction made for living. There are different types of houses in our surroundings. Some houses are used for temporary housing such as caravans and houseboats, while other houses are permanent houses such as bungalows, mansions etc. The type of house we build depends upon our needs.

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Cognitive Domain: Knowing
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**Content Domain: Environmental Science** 

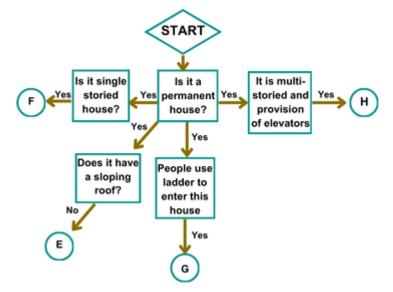
**28.** Read the conversation between two friends and select the correct option:



- a. Steven described a houseboat while Gregory described a yurt.
- b. Steven described a caravan while Gregory described a lighthouse.
- c. Steven described a bungalow while Gregory described a villa.
- d. Steven described a caravan while Gregory described an igloo.

#### Cognitive Domain: Applying Content Domain: Environmental Science

**29.** Study the given flow chart carefully. Where would a stilt house and an apartment can be placed?



- a. Stilt house G, Apartment H
- c. Stilt house F, Apartment E

Cognitive Domain: Applying

**Content Domain: Environmental Science** 

b. Stilt house - H, Apartment - F

d. Stilt house - F, Apartment - G

- **30.** Jack is an architect designing houses for a very crowded city. Which type of house should he most likely design and why?
  - a. Stilt house, to protect from flooding
  - b. Apartment, to maximise the use of limited space
  - c. Igloo, to keep warm
  - d. Bungalow, to provide large open spaces

# **Answer Key**

| 1.  | а | 2.  | b | 3.  | d | 4.  | d | 5.  | b | 6.  | С | 7.  | d |
|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|
| 8.  | а | 9.  | b | 10. | С | 11. | d | 12. | а | 13. | b | 14. | d |
| 15. | а | 16. | b | 17. | С | 18. | d | 19. | а | 20. | b | 21. | С |
| 22. | а | 23. | С | 24. | С | 25. | а | 26. | b | 27. | С | 28. | d |
| 29. | а | 30. | b |     |   |     |   |     |   |     |   |     |   |