



**Science Olympiad Foundation Uganda**  
Uganda National Science Olympiads 2022

Elementary Science Olympiad

**Time: 2 hours**

National Qualifier Examination

**Index Number:** \_\_\_\_\_

**Date of birth:** \_\_\_\_\_

Allowed material:

- Pen
- Soft clean eraser
- Calculator
- Soft pencil (type B or HB recommended)

**READ THESE INSTRUCTIONS FIRST**

**Instructions**

- a) Use black ink or ball-point pen.
- b) Answer all questions.
- c) Answer the questions in the spaces provided – there may be more space than you need.
- d) For MCQs, please circle the correct answer.
- e) Read each question carefully before you start to answer it.
- f) Keep an eye on the time.
- g) Check your answers again if you have time at the end.
- h) Each right answer earns you one mark (+1), each wrong answer (- 0.25 marks), and each unanswered question (0 marks)

**Photograph Release Form**

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## SECTION A – CRITICAL THINKING MULTIPLE CHOICE QUESTIONS

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**Question 1 of 10**

QID: 001

Marks: 1

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Find that letter which will end the first word and start the second word:

B I R ? U C K

- a) T                                      b) L                                      c) K                                      d) D

**Question 2 of 10**

QID: 002

Marks: 1

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If the 1<sup>st</sup> half of the English alphabet is written in reverse order, then find the 15th letter from the right

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

**Question 3 of 10**

QID: 003

Marks: 1

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if 'VEHEMENT' is written as 'VEHETNEM', then how 'MOURNFUL' be written in that code language?

- a) MOURLUFN                      b) MOUNULER                      c) OURMNFUL                      d) URNFULMO

**Question 4 of 10**

QID: 004

Marks: 1

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If 1<sup>st</sup> January 2008 is Tuesday, then what day of the week is on 1<sup>st</sup> January 2009?

- a) Monday                              b) Wednesday                      c) Thursday                              d) Sunday

**Question 5 of 10**

QID: 005

Marks: 1

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How many such pairs of letters are there in the word "SIMPLE" which has as many letters between them as there are in the English alphabet series?

- a) 2                                      b) 3                                      c) 1                                      d) 0

**Question 6 of 10**

QID: 006

Marks: 1

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Four boxes are labelled as 1, 2, 3, and 4. Each of them has a different weight. Box 2 is heavier than box 4. More than one boxes are heavier than box 1. Box 1 is not the lightest. Box 1 is heavier than box 3. Which of the following box is the lightest?

- a) 1                                      b) 2                                      c) 3                                      d) 4

**Question 7 of 10**

QID: 007

Marks: 1

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Three words are given in the following question, which have something in common among themselves. Out of four given alternatives, choose the most appropriate alternative which is similar to the given words: Intestine :

Liver : Heart

- a) Blood                                      b) Hand                                      c) Forehead                                      d) Kidney

**Question 8 of 10**

QID: 008

Marks: 1

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Parmila is going towards East. She turns left, moves on some distance and again turns to her left. After walking some distance she turns to her right and moves on. In which direction she is going now?

- a) North                                      b) South                                      c) North-West                                      d) West

**Question 9 of 10**

QID: 009

Marks: 1

Six persons namely; Anushka, Sita, Sam, Deepika, Ranveer and Jitu are sitting around a circular dinner table but not necessarily in the same order

Anushka sits third to the right of Sam.

Only one person sits between Anushka and Ranveer.

Ranveer and Sita are immediate neighbours.

Jitu sits to the immediate right of Sam.

Who among the following is an immediate neighbour of Anushka?

- a) Ranveer
- b) Sam
- c) Jitu
- d) Deepika

**Question 10 of 10**

QID: 010

Marks: 1

A clock is kept horizontally on a table in such a manner that at 12PM, its hour hand was pointing towards East. In which direction will the hour hand point at 9PM?

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

## SECTION B – SCIENCE MULTIPLE CHOICE QUESTIONS

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**Question 1 of 10**

QID: 011

Marks: 4

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*Jorge discovered that a piece of bread left in a sandwich bag had developed a black mold-like substance growing on its surface. He decided to perform an experiment to determine factors affecting mold growth.*

1. In Jorge's bread mold experiment, he used the same brand of bread and sandwich bags. He placed the sealed bags in places that had varying temperatures. Temperature is the:
  - a) Control variable
  - b) Hypothesis
  - c) Analysis
  - d) Experimental variable
2. Which of the following is the same measurement as 2000 grams of soda?
  - a) 0.2 litres of soda
  - b) 2 litres of soda
  - c) 2 kilograms of soda
  - d) 2 millilitres of soda
3. All matter consists of tiny particles known as atoms. The different types of atoms are known as:
  - a) Elements
  - b) Compounds
  - c) Molecules
  - d) Chemicals
4. The atoms in gases:
  - a) Vibrate in one place
  - b) Move about freely
  - c) Vibrate and move about freely
  - d) Vibrate and move freely about, but not at the same time.

**Question 2 of 10**

QID: 012

Marks: 1

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Most of the earth's water is found in which phase?

- a) Solid
- b) Liquid
- c) Gas
- d) None of the above

**Question 3 of 10**

QID: 013

Marks: 1

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What effect does increasing atmospheric pressure have on the rate of evaporation?

- a) evaporation decreases
- b) evaporation increases
- c) evaporation stays the same
- d) the effect depends on latitude

**Question 4 of 10**

QID: 014

Marks: 1

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The correct order for fossil formation is:

- a) Soft body parts decay, sediments are deposited and cover organisms, sediments and hard parts become rock.
- b) Sediments are deposited and cover organism, soft body parts decay, sediments and hard parts become rock.
- c) Hard and soft body parts decay and become rock
- d) Sediments cover organism and all body parts decay

**Question 5 of 10**

QID: 015

Marks: 1

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The idea that continents move slowly on Earth's surface is known as:

- a) Sea-floor spreading
- b) Mountain making
- c) Continental drift
- d) Convection cells



## SECTION C – MATHEMATICS MULTIPLE CHOICE QUESTIONS

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**Question 1 of 10**

QID: 021

Marks: 1

The production of computers in a company increases uniformly by a fixed number every year, it produced 8000 computers in 6th year & 1300 in 9th year find the production in 8th year.

- a) 11,500                      b) 9,800                      c) 8,520                      d) 10,200

**Question 2 of 10**

QID: 022

Marks: 1

Aman, Anna and Tina are participating in the school race. Anna completes a lap in 2 minutes 35 seconds, Aman completes a lap in 4 minutes and Tina completes a lap in 1 minute and 30 seconds. If they all started at the same time, then after how long will they meet again?

- a) 372 minutes                      b) 360 minutes                      c) 420 minutes                      d) 590 minutes

**Question 3 of 10**

QID: 023

Marks: 1

Sachin needs 1.54 m of cloth for a shirt and 2.95 m for a pant for a safari suit. His uncle gifted a piece of cloth to him. But the cloth fell short by 0.95 m. What was the length of the cloth gifted by his uncle?

- a) 5.4m                      b) 4.49m                      c) 3.4m                      d) 2.94m

**Question 4 of 10**

QID: 024

Marks: 1

Which of the following options is true?

- a)  $(6/6) + 2 = 3$                       b)  $8 - 3 \times 4 = 20$                       c) Both a and b                      d) None of the above

**Question 5 of 10**

QID: 025

Marks: 1

In the family of four members, 20 years ago the average age of them was 60 years. Two children were born in this span of 10 years. But the present average age of the family remains the same. Among the two children who were born during the 20 years, if the older child at present is 8 years older than the younger one, what is the ratio of the present age of the older child to the present age of the younger child?

- a) 4:3                      b) 7:3                      c) 3:2                      d) 7:4

**Question 6 of 10**

QID: 026

Marks: 1

On the occasion of Holi, Anvi bought chocolates and gave one-third to her classmates and thrice the square root of the chocolates to her siblings. Still, she has 27 chocolates. Find the total number of chocolates purchased by Anvi:

- a) 81                      b) 98                      c) 112                      d) 144

**Question 7 of 10**

QID: 027

Marks: 1

In the beginning, A works at the rate such that he can finish a piece of work in 24 hours, but he only works at this rate for 16 hours. After that, he works at a rate such that he can do the whole work in 18 hours. If A is to finish the work at a stretch, how many hours will he take to finish the work?

- a) 12 hours                      b) 22 hours                      c) 26 hours                      d) 18 hours

**Question 8 of 10**

QID: 028

Marks: 1

There are two points A and B indicated on a wall. Point A is at a height of 2 m above the ground and point B is 4 m vertically above point A. At a certain instant, the angles of elevation of a kite from these points are observed to be 60 and 30, respectively. Find the height of the kite above the ground:

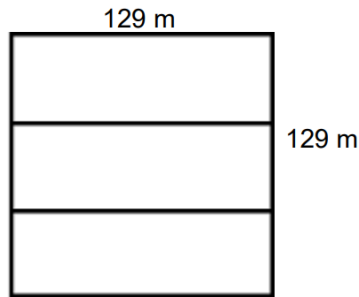
- a) 2 m                      b) 4 m                      c) 8 m                      d) 16 m

**Question 9 of 10**

QID: 029

Marks: 1

A square field with each side measuring 129 m was divided among 3 brothers equally as shown in the given figure. Find the perimeter of each part:



- a) 516 m                      b) 344 m                      c) 172 m                      d) 240 m

**Question 10 of 10**

QID: 030

Marks: 1

Rimmi jogged  $2\frac{3}{5}$  km of a track on Saturday and  $3\frac{1}{4}$  km on Sunday. If the total track is 10 km, then how much km of track remains to be jogged to complete one round?

- a)  $6\frac{5}{10}$  km                      b)  $5\frac{17}{20}$  km                      c)  $3\frac{9}{10}$  km                      d)  $3\frac{3}{20}$  km