



## GC INTERNATIONAL SCIENCE OLYMPIAD - LEVEL THREE SAMPLE PAPER

### Question 1

The pesticide used in foundation of buildings for preventing termite attack is:

- A. DDT      B. BHC      C. aldrin      D. endosulphan

Key: C

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### Question 2

BCG vaccine provides protection from:

- A. emphysema      B. pneumonia      C. polio      D. tuberculosis

Key: D

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### Question 3

The period of pendulum depends upon:

- A. mass      B. length      C. amplitude      D. energy

Key: B

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### Question 4

Which of the following does not belong to the family of solar system?

- A. Planet      B. Galaxy      C. Meteors      D. Comet

Key: B

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### Question 5

Which planet has the largest number of satellites?

- A. Jupiter      B. Saturn      C. Mercury      D. Mars

Key: B

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## Question 6

Which gas is the major pollutant of air?

- A. Carbon monoxide    B. Nitrogen    C. Oxygen    D. Propane

Key: A

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## Question 7

Which one of the following statements is correct regarding rods and cones in the human eye?

- A. Cones are sensitive to dim light  
B. Cones are sensitive to bright light  
C. Rods are sensitive to bright light  
D. Rods can sense colour

Key: B

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## Question 8

Two boys A and B are applying force on a block. If the block moves towards the boy A, which one of the following statements is correct?

- A. Magnitude of force applied by A is greater than that of B.  
B. Magnitude of force applied by A is smaller than that of B.  
C. Net force on the block is towards B.  
D. Magnitude of force applied by A is equal to that of B.

Key: B

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## Question 9

In an experiment demonstrating the evolution of oxygen in Hydrilla, sodium bicarbonate is added to water in the experimental set-up. What would happen if all other conditions are favourable ?

- A. Amount of oxygen evolved decreases as carbon dioxide in water is absorbed by sodium bicarbonate.  
B. Amount of oxygen evolved decreases as the availability of carbon dioxide increases.  
C. Amount of oxygen evolved increases as the availability of carbon dioxide increases.  
D. Amount of oxygen evolved increases as carbon dioxide in water is absorbed by sodium bicarbonate.

Key: C

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## Question 10

The nerve cells in the retina transmit the sensation to the brain through: -

- A. optic nerve
- B. pupil
- C. cornea
- D. retina

Key: A

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## Question 11

The number of terminals in an electrical cell is

- A. 2
- B. 3
- C. 1
- D. 0

Key: A

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## Question 12

To see a shadow we need

- A. Source of light only
- B. An opaque object only
- C. Both the source of light and an opaque object
- D. The sun only

Key: C

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## Question 13

A pinhole camera can be used

- A. To view the solar eclipse
- B. To view the brightly lit objects
- C. To image the sun
- D. To view all the options mentioned here

Key: D

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## Question 14

Which one of the following things will help the current to pass through it?

- A. A rubber band
- B. A switch in the OFF position
- C. Human body
- D. A screw driver with a plastic handle

Key: C

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## Question 15

Magnets can be used

- A. to find directions
- B. to lift heavy vehicles with the help of a cranes
- C. to attract magnetic materials from sand
- D. to do all three tasks mentioned here

Key: D

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## Question 16

While taking a measurement of length which of the following precaution is not required

- A. Place the scale in contact with the object along its length
- B. If the zero mark is not visible, take the measurement from the 1 cm and subtract 1 cm from the reading of the other end. Then write the answer.
- C. If the zero mark is not visible, take the measurement from the 1 cm and write the answer.
- D. Correct position of the eye is also important for taking measurement

Key: C

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## Question 17

Humans are an example of Autotrophs.

- A. Yes B. No

Key: B

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## Question 18

The nucleus in the leaves is surrounded by

- A. cytoplasm B. Plasma C. celluloid D. None of these

Key: A

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## Question 19

It forms the floor of the chest cavity.

- A. Diaphragm
- B. Chest cavity
- C. Rib cage
- D. Nasal cavity

Key: A

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## Question 20

The organisms which can survive in the absence of air are called

- A. Amoeba
- B. Both Anaerobes and Arobes
- C. Anaerobes
- D. Arobes

Key: C

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## Question 21

Vascular tissue for the transport of food in plants is

- A. Stomata
- B. Xylem
- C. Chlorophyll
- D. Phloem

Key: D

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## Question 22

Aquatic animals excrete waste substances in the form of

- A. Both Urea and Ammonia
- B. Uric acid
- C. Urea
- D. Ammonia

Key: D

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## Question 23

You find an igneous rock that contains large crystals. This means:

- A. Slow cooling produced the rock.
- B. Rapid cooling produced the rock.
- C. Large crystals indicate the source of the rock.
- D. Large crystals indicate how long ago the rock formed.

Key: A

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## Question 24

The preserved remains of once-living organisms are called:

- A. meteorites
- B. geodes
- C. mitochondria
- D. fossils

Key: D

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## Question 25

Morning dew is an example of which portion of the water cycle?

- A. transpiration
- B. condensation
- C. evaporation
- D. precipitation

Key: B

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## Question 26

When wind blows, the most likely cause is:

- A. changing phases of the moon
- B. uneven heating of the Earth
- C. changing distance between the Sun and the Earth
- D. humidity of the air

Key: B

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## Question 27

What combination of sex chromosomes produces a male human?

- A. XXX
- B. XO
- C. XY
- D. XX

Key: C

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## Question 28

The only planet that has a day longer than its year is ...

- A. Venus
- B. Jupiter
- C. Uranus
- D. Pluto

Key: A

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## Question 29

The North Star is which one of the following?

- A. Alpha Centauri
- B. Rigil
- C. Polaris
- D. Orion

Key: C

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## Question 30

A honey bee getting nectar or pollen from a flower is an example of which type of association?

- A. commensalism
- B. scavenger and its food
- C. mutualism
- D. parasitism

Key: C

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## Question 31

The standard unit of measurement used for measuring force is which of the following?

- A. Kilogram
- B. Watt
- C. Mile
- D. Newton

Key: D

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## Question 32

What is the name of the igneous rock that is light enough to float?

- A. pumice
- B. granite
- C. basalt
- D. obsidian

Key: A

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## Question 33

North and South America are joined together by what isthmus?

- A. Catalina Isthmus
- B. Isthmus of Summerside
- C. Isthmus of Tehuantepec
- D. Isthmus of Panama

Key: D

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## Question 34

Ocean consists of nearly what percent of Earth's water?

- A. 50
- B. 97
- C. 27
- D. 30

Key: B

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## Question 35

The effect of air pollution on an individual depends on:

- A. The concentration of the chemical
- B. The nature of the pollutant
- C. The duration of exposure to the chemical
- D. All of the above

Key: D

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## Question 36

While doing an experiment, you start with a Control Group by filling one 400 mL beaker with 250 mL of cold water and another 400 mL beaker with 250 mL of hot water. You place 1 seltzer tablet in each beaker to time how fast it dissolves. In the next experiment you fill a 250 mL beaker with hot water and a 400 mL beaker with hot water. You place 1 seltzer tablet in each beaker to time how fast it dissolves. What is the Independent Variable in this experiment?

- A. The Seltzer Tablet
- B. The Volume of Water.
- C. The Temperature of the Water
- D. The size of the Beaker

Key: D

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## Question 37

Identify which of the following is the name of a Phylum.

- A. Plantae
- B. Chordata
- C. Animalia
- D. Eubacteria

Key: B

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## Question 38

Homeostasis is...

- A. The need for a person to be at home.
- B. A way your body kills bacteria.
- C. How damaged cells repair themselves.
- D. How your body maintains stability in a changing environment.

Key: D

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## Question 39

Anterior, posterior, lateral, ventral, and dorsal are all terms that describe anatomical direction. What does anterior refer to?

- A. Closer to the front.
- B. Top
- C. Closer to the back.
- D. Bottom

Key: A

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## Question 40

Which of these is NOT a characteristic of earthworms?

- A. Earthworms are Segmented
- B. Earthworms help improve soil quality
- C. Earthworm reproductive segments look identical to all the other segments of the worm body.
- D. Earthworms have simple body systems

Key: C

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## Question 41

Ganglia are found in simple and complex invertebrates and are controlled by the brain. What are Ganglia?

- A. Cells that break down food.
- B. Neurons
- C. A mass of nerve cells.
- D. Long, skinny blood veins

Key: C

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## Question 42

What is the “radula” used for on the Mollusk?

- A. Eating
- B. Locomotion
- C. Reproduction
- D. As a Defense Mechanism.

Key: A

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## Question 43

Which of the following organisms is NOT an amphibian

- A. Salamander
- B. Frog
- C. Toad
- D. Water Snake

Key: D

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## Question 44

What does the atomic number of an element represent?

- A. The number of protons and neutrons in a single atom of the element
- B. ONLY the number of protons in a single atom of the element
- C. ONLY the number of neutrons in a single atom of the element
- D. ONLY the number of electrons in a single atom of the element

Key: B

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## Question 45

Water travelling through the stem and out the leaves of a plant is called..

- A. Transpiration
- B. Transportation
- C. Photocoralisis
- D. Photosynthesis

Key: A

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## Question 46

What is the name of the phase when water changes form from a liquid to a gas?

- A. Condensation
- B. Evaporation
- C. Melting
- D. Sublimation

Key: B

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## Question 47

Larvae have a breathing tube and must come to the surface of the water to breathe.

If a layer of an oily substance completely covers the surface of the water for several days, what will most likely happen to the larva?

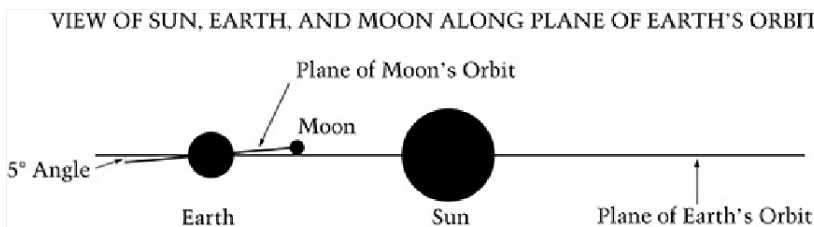
- A. It will not survive because of lack of fresh food sources.
- B. It will not survive because of lack of oxygen.
- C. It will skip the pupa stage and hatch immediately to break out of the water.
- D. It will hold its breath until the oily substance naturally breaks down in the water.

Key: B

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## Question 48

Earth revolves around the Sun, and the Moon revolves around Earth. The Moon's orbital path is sometimes above and sometimes below the plane of Earth's orbit, as shown in the diagram below.



What would happen if Earth's orbit and the Moon's orbit were in the same plane?

- A. Eclipses would occur every month.
- B. The Moon would not have phases.
- C. All sides of the Moon would be visible from Earth.
- D. The same side of the Moon would always face the Sun.

Key: A

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## Question 49

Why do mountain climbers at high elevations use oxygen tanks to help them breathe?

- A. At high elevations the ozone layer draws oxygen out of the atmosphere.
- B. The atmosphere is less dense at higher elevations so there is less oxygen available.
- C. Oxygen is heavier than the other gases in the atmosphere and sinks to lower elevations.
- D. Radiation from the Sun splits oxygen molecules into atoms making the oxygen unbreathable.

Key: B

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## Question 50

There are many kinds of warblers throughout the world. One kind of warbler with black-and-white feathers is often seen on tree trunks. Another kind with golden-colored feathers is often seen in fields.

Which statement best explains how the color of these warblers helps them survive?

- A. The color of the feathers helps the birds locate nests.
- B. The color of the feathers helps to control the amount of body heat the birds lose.
- C. The color of the feathers blends into the birds' surroundings and helps the birds avoid predators.
- D. The color of the feathers attracts the kinds of insects the birds like to eat.

Key: C

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## Question 51

A thermometer shows that the outside air temperature is colder than the temperature at which water turns to ice. However, ice on the sidewalk melts.

What probably caused this?

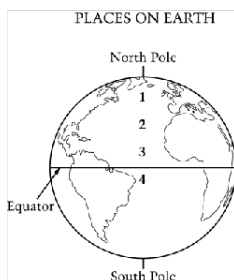
- A. The air heating the sidewalk
- B. The sidewalk reflecting sunlight into the air
- C. The wind causing the ice on the sidewalk to melt
- D. The sunlight making the sidewalk warmer than the air

Key: D

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## Question 52

The diagram below shows four places on Earth. Places 1, 2, 3, and 4 are all at sea level.



Which place has the coldest winters?

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

Key: A

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## Question 53

Roger poured water over a pile of sand. Some of the sand washed away. This process is similar to which of the following?

- A. The eruption of a volcano
- B. The erosion of the walls of a canyon
- C. The uplifting of mountain ranges
- D. The forming of dunes or mounds in a desert

Key: B

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## Question 54

Which statement explains why light from the Sun can warm up water in a glass?





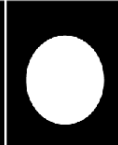
- A. Light travels very fast.
- B. Light travels in straight lines.
- C. Water reflects light energy.
- D. Water absorbs light energy.

Key: D

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## Question 55

Jennifer drew what the Moon looked like just after sunset every third or fourth night. Her drawings for the nights she observed the Moon are shown below.

				
Night 1	Night 4	Night 7	Night 11	Night 14

On Night 11 the clouds were so thick that Jennifer could not see the Moon.

Based on the drawings for the other nights, what would Jennifer have seen on Night 11 if the sky were clear?

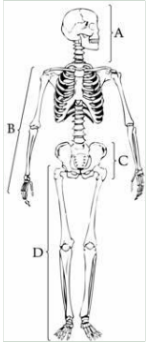
- A. 
- B. 
- C. 
- D. 

Key: D

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## Question 56

Which part of the human skeleton is most like the bones in a bird's wing?

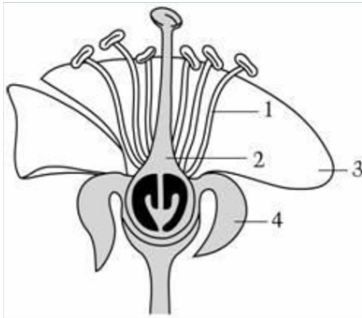


- A. A      B. B      C. C      D. D

Key: B

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## Question 57



Which two numbers in the picture above of a flower show the male and female parts?

- A. 1 and 2      B. 2 and 3      C. 2 and 4      D. 3 and 4

Key: A

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## Question 58

If you breathe on a mirror, part of the mirror clouds up. What are you actually seeing when you see the mirror cloud up?

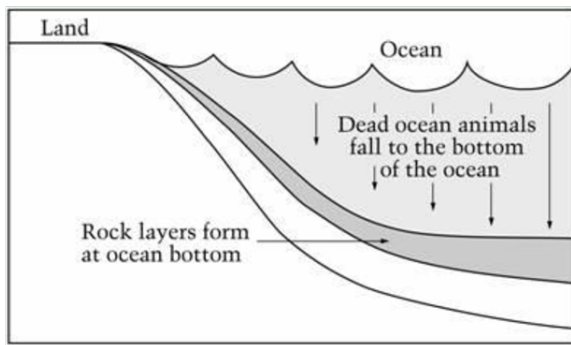
- A. Water droplets that formed from cooled water vapor in your breath
- B. Carbon dioxide that you are breathing out from your lungs
- C. Oxygen that you are breathing out from your lungs
- D. Cooled nitrogen in the air around you

Key: A

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## Question 59

The picture below shows how a type of rock forms at the bottom of the ocean. What type of rock is this?



- A. Lava      B. Igneous      C. Sedimentary      D. Metamorphic

**Key: C**

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## Question 60

Which of the following best explains why the Sun appears to move across the sky every day?

- A. The Sun rotates on its axis.  
B. Earth rotates on its axis.  
C. The Sun orbits around Earth.  
D. Earth orbits around the Sun.

**Key: B**