
IQNexus Science Olympiad (IQSO) – Class 8

SAMPLE PAPER

Session: 2025-26

Student's Name: _____
Class: _____ Section: _____ Roll No.: _____
School Name: _____

Pattern & Marking Scheme

Total Questions: 30

Total Marks: 100

Time: 1 Hour

Pattern & Marking Scheme:

1. Logical Challenger (Logical Thinking & Puzzles) – 5 Questions (10 Marks)
2. Core Science (Physics, Chemistry, Biology) – 15 Questions (45 Marks)
3. Scientific Aptitude (Application-based & Experimental Science) – 5 Questions (25 Marks)
4. HOTS (Higher Order Thinking Skills) – 5 Questions (20 Marks)

SECTION 1: Logical Challenger (Science-Based Puzzles & Reasoning) (5 Questions – 10 Marks)

1. A scientist places a bar magnet near a pile of iron filings and notices a pattern forming around the magnet. What property of the magnet is responsible for this pattern?
 - A) Magnetic repulsion
 - B) Magnetic field lines
 - C) Gravitational force
 - D) Electrostatic charge

2. A student drops a steel ball and a wooden ball of the same size from the same height in a vacuum. Which one will hit the ground first?
 - A) Steel ball
 - B) Wooden ball
 - C) Both will hit at the same time
 - D) Cannot be determined
 3. A liquid is heated in a closed container, and its pressure increases. What is the most likely reason?
 - A) The molecules move faster and collide more frequently
 - B) The liquid expands and forms a solid
 - C) The liquid gains mass
 - D) The molecules become larger
 4. A cube of ice is floating in a glass of water. When the ice melts completely, what will happen to the water level?
 - A) It will rise
 - B) It will remain the same
 - C) It will decrease
 - D) It depends on the temperature of the room
 5. A candle is burning inside a closed glass jar. After some time, the flame goes out. What is the most likely reason?
 - A) The wax has completely burned
 - B) The oxygen inside the jar is used up
 - C) The temperature inside the jar becomes too high
 - D) The glass absorbs the heat
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SECTION 2: Core Science (Physics, Chemistry, Biology) (15 Questions – 45 Marks)

6. What is the unit of electrical resistance?
 - A) Ampere
 - B) Volt
 - C) Ohm
 - D) Coulomb
7. Which of the following is an exothermic reaction?
 - A) Melting of ice
 - B) Evaporation of water
 - C) Combustion of fuel
 - D) Boiling of water
8. A body is thrown vertically upwards with a velocity of 20 m/s. What will be its velocity when it reaches the highest point?
 - A) 10 m/s
 - B) 20 m/s
 - C) 0 m/s
 - D) 5 m/s

9. Which of the following is NOT a function of the human liver?
- A) Production of bile
 - B) Detoxification of blood
 - C) Digestion of proteins
 - D) Regulation of blood sugar
10. What type of lens is used to correct myopia (short-sightedness)?
- A) Convex lens
 - B) Concave lens
 - C) Cylindrical lens
 - D) Bifocal lens
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SECTION 3: Scientific Aptitude (5 Questions – 25 Marks)

11. A student performed an experiment to test the effect of salt concentration on plant growth. What is the **independent variable** in this experiment?
- A) Amount of sunlight
 - B) Type of soil
 - C) Salt concentration
 - D) Growth of the plant
12. If a satellite is launched into orbit around Earth, what keeps it from falling back?
- A) Earth's magnetic field
 - B) Centripetal force
 - C) Air resistance
 - D) Friction
13. Which of the following is an example of a **renewable energy source**?
- A) Coal
 - B) Petroleum
 - C) Natural gas
 - D) Solar energy
14. In an electric circuit, which device is used to measure current?
- A) Voltmeter
 - B) Ammeter
 - C) Galvanometer
 - D) Resistor
15. What will happen to the pH of a solution if an **acid** is added to it?
- A) pH will increase
 - B) pH will decrease
 - C) pH will remain the same
 - D) It will turn neutral
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SECTION 4: HOTS (Higher Order Thinking Skills) (5 Questions – 20 Marks)

16. A ball is thrown upwards at 30 m/s. Ignoring air resistance, how long will it take to return to the thrower's hand?
 - A) 3 sec
 - B) 5 sec
 - C) 6 sec
 - D) 10 sec
 17. When iron nails are placed in copper sulfate solution, a chemical reaction occurs. What is observed?
 - A) The solution turns blue
 - B) The iron nails dissolve
 - C) The solution turns green, and iron gets a reddish-brown coating
 - D) No change occurs
 18. A battery produces electric current due to:
 - A) Flow of neutrons
 - B) Flow of ions
 - C) Flow of protons
 - D) Flow of electrons
 19. Two gases, X and Y, are placed in a sealed container. X is denser than Y. Over time, X and Y are evenly mixed. Which process is responsible for this?
 - A) Diffusion
 - B) Convection
 - C) Radiation
 - D) Osmosis
 20. If the force applied on an object is **tripled**, how does the acceleration change (assuming mass remains constant)?
 - A) It remains the same
 - B) It doubles
 - C) It triples
 - D) It reduces
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SECTION 1: Logical Challenger (Science-Based Puzzles & Reasoning)

1. B) Magnetic field lines
2. C) Both will hit at the same time
3. A) The molecules move faster and collide more frequently
4. B) It will remain the same
5. B) The oxygen inside the jar is used up

SECTION 2: Core Science (Physics, Chemistry, Biology)

6. C) Ohm
7. C) Combustion of fuel
8. C) 0 m/s
9. C) Digestion of proteins
10. B) Concave lens

SECTION 3: Scientific Aptitude

11. C) Salt concentration
12. B) Centripetal force
13. D) Solar energy
14. B) Ammeter
15. B) pH will decrease

SECTION 4: HOTS (Higher Order Thinking Skills)

16. C) 6 sec
17. C) The solution turns green, and iron gets a reddish-brown coating
18. D) Flow of electrons
19. A) Diffusion
20. C) It triples