

Grade
8

S-CAT Assessment Round Sample Question Paper

Return the answer sheet along with question paper to the invigilator at the end of the exam.



TOTAL MARKS
100



QUESTIONS
50



DURATION
60 mins

Instructions for Student:

- Read the question carefully before answering.
- Each question has 4 options (A, B, C & D).
- Choose one correct option as your answer, from the 4 options.
- Every question carries 2 marks.
- On the answer sheet blacken the correct option against the corresponding question number,

The Correct Method

Q.	Answer
1	(A) (B) ● (D)

The Wrong Methods

Q.	Answer
1	(A) ● ● (D)
1	(A) (B) ● (D)
1	(A) (B) ✓ (D)
1	(A) (B) ✗ (D)

- Use pencil to mark your answer.
- If you wish to change your answer, erase the previous mark completely.

1. **How can farmers reduce water wastage during irrigation in regions with limited water resources?**
 - a. By using drip irrigation systems
 - b. By increasing the amount of water used
 - c. By flooding fields with water
 - d. By using the moat system
2. **What is the primary chemical formula for glucose?**
 - a. $C_6H_{12}O_6$
 - b. $C_5H_{10}O_5$
 - c. $C_{12}H_{22}O_{11}$
 - d. C_6H_6
3. **If a candle flame appears blue instead of yellow, what can be inferred about the combustion process?**
 - a. The combustion is incomplete and the temperature is higher.
 - b. There is insufficient oxygen for combustion.
 - c. The combustion is complete and the temperature is higher.
 - d. There is a higher concentration of unburnt hydrocarbons.
4. **Which indicator would turn pink in the presence of a base?**
 - a. Blue litmus paper
 - b. Red litmus paper
 - c. Phenolphthalein
 - d. Methyl orange
5. **Which experiment would best demonstrate the malleability of a metal?**
 - a. Bending a metal wire
 - b. Hammering a metal sheet into a thin foil
 - c. Melting the metal and pouring it into a mold
 - d. Observing the metal's reaction with water
6. **Which non-metal is commonly used in fertilizers to enhance plant growth?**
 - a. Carbon
 - b. Nitrogen
 - c. Sulphur
 - d. Magnesium
7. **Which of the following would you expect to feel slippery?**
 - a. Vinegar
 - b. Lemon juice
 - c. Soap solution
 - d. Distilled water
8. **Why do farmers treat acidic soil with lime (calcium hydroxide)?**
 - a. To increase acidity
 - b. To neutralize the soil
 - c. To reduce nutrient content
 - d. To increase soil erosion
9. **If a person is trapped in a room filled with smoke, what is the best course of action?**
 - a. Stand up and run to the exit.
 - b. Crawl on the floor to avoid inhaling smoke.
 - c. Close the windows and doors.
 - d. Wave a cloth to push the smoke away.

10. Why is proper storage crucial in crop production?

- a. To prevent spoilage and reduce post-harvest losses
- b. To sell it at a higher price than the market rate
- c. To increase crop yield
- d. To improve soil fertility

11. What gas is produced when hydrochloric acid reacts with magnesium?

- a. Oxygen
- b. Nitrogen
- c. Hydrogen
- d. Carbon dioxide

12. Which agricultural tool is used for the precise sowing of seeds at a consistent depth and spacing?

- a. Hoe
- b. Cultivator
- c. Plough
- d. Seed drill

13. If a person exerts a force of 500 N on a 100 sq. cm (0.01 sq.m) area, what is the pressure in Pascals?

- a. 0.5 Pa
- b. 5 Pa
- c. 50 Pa
- d. 50000 Pa

14. How does sexual reproduction contribute to the evolution of species?

- a. By producing genetically identical offspring
- b. By ensuring rapid population growth
- c. By introducing genetic variation
- d. By maintaining genetic uniformity

15. The ignition temperature is defined as:

- a. The temperature at which a fuel evaporates
- b. The temperature at which fuel starts to burn
- c. The temperature at which oxygen reacts with nitrogen
- d. The temperature at which combustion is impossible

16. What is the best way to prevent sodium from reacting violently with air?

- a. Store it in water.
- b. Store it in kerosene.
- c. Store it in an open plastic bag.
- d. Store it in a refrigerator.

17. What is the primary product of complete combustion of hydrocarbons?

- a. Carbon monoxide
- b. Carbon dioxide
- c. Methane
- d. Hydrogen

18. Which of the following microorganisms is responsible for causing tuberculosis?

- a. Virus
- b. Bacteria
- c. Fungi
- d. Protozoa

19. Which of the following best describes regular reflection?

- a. Light bouncing off a smooth surface in one direction
- b. Light scattering in multiple directions from a rough surface
- c. Light being absorbed by a surface
- d. Light passing through a transparent object

20. Which type of force opposes the motion of objects sliding against each other?

- a. Gravitational force
- b. Magnetic force
- c. Frictional force
- d. Electrostatic force

21. What is the mass number of an element with 11 protons and 12 neutrons?

- a. 23
- b. 22
- c. 21
- d. 24

22. A forest fire is approaching a house. Which action should be taken to reduce the risk of the house catching fire?

- a. Open all windows and doors.
- b. Remove all vegetation around the house.
- c. Spray kerosene on the trees around the house.
- d. Close all vents and windows.

23. Why is responsible breeding important for pet owners who breed their animals?

- a. It ensures higher profits from selling pets.
- b. It maintains the health and welfare of the pets.
- c. It reduces the cost of pet care.
- d. It increases the popularity of the breed.

24. What happens to the net force when two forces of 50 N each act in opposite directions on a rope?

- a. The net force is 100 N.
- b. The net force is 0 N.
- c. The net force is 25 N.
- d. The net force is 50 N.

25. Calculate the number of protons in an atom of an element with an atomic number of 26.

- a. 13
- b. 26
- c. 52
- d. 6

26. If you rub a balloon on your hair and stick it to a wall, what force is primarily responsible for this phenomenon?

- a. Gravitational force
- b. Frictional force
- c. Magnetic force
- d. Electrostatic force

27. In the context of the laws of reflection, what is the "normal"?

- a. The incident ray
- b. The reflected ray
- c. A line perpendicular to the reflecting surface
- d. The surface itself

28. In which state of matter are the intermolecular forces the weakest?

- a. Solid
- b. Liquid
- c. Gas
- d. None of the these

29. Why are car tyres deflated slightly when driving on sand?

- a. To increase friction
- b. To increase pressure on the sand
- c. To decrease the surface area of contact
- d. To decrease pressure on the sand

30. During which process do particles gain enough energy to move from a liquid state to a gaseous state?

- a. Melting
- b. Freezing
- c. Condensation
- d. Vaporization

31. A neutral atom of an element has 8 electrons. What is the atomic number of this element?

- a. 8
- b. 16
- c. 32
- d. 4

32. In a series circuit, if one component fails, what happens to the current flow?

- a. It increases.
- b. It decreases.
- c. It stops.
- d. It remains the same.

33. When conducting an experiment to observe Brownian motion, what type of particles would you most likely use?

- a. Large visible particles
- b. Tiny, light particles like pollen
- c. Heavy metal particles
- d. Particles that dissolve in water

34. You observe that a liquid turns into a solid at a certain temperature. What must be true about the kinetic energy of the particles during this process?

- a. The kinetic energy increases
- b. The kinetic energy decreases
- c. The kinetic energy remains constant
- d. The kinetic energy fluctuates

35. The following table summarises the information about different crops grown in two seasons:

Crop Type	Season	Examples
Kharif	Rainy Season	Rice, Maize, Cotton
Rabi	Winter Season	Wheat, Barley, Mustard

Based on the table, which of the following statements is correct?

- a. Cotton is a rabi crop.
- b. Wheat is a kharif crop.
- c. Maize is a kharif crop.
- d. Mustard is a kharif crop.

36. Refer to the following table showing the temperatures and colours of different flames:

Colour of Flame	Temperature Range (°C)
Blue	1400-1600
Yellow	900-1200
Red	600-800

If a gas stove flame appears blue, what can be inferred about its temperature compared to a candle's yellow flame?

- a. The gas stove flame is cooler than the candle flame.
- b. The gas stove flame is hotter than the candle flame.
- c. The gas stove flame and candle flame have the same temperature.
- d. The temperature difference cannot be determined.

37. Why does transpiration increase with higher temperatures?

- a. Because stomata close.
- b. Because water molecules move slower.
- c. Because air can hold more moisture.
- d. Because of decreased humidity.

38. In a hydroelectric dam, water falling from a height is used to generate electricity. Which energy conversion is taking place?

- a. Potential to kinetic to electrical
- b. Kinetic to potential to electrical
- c. Electrical to thermal to kinetic
- d. Thermal to potential to electrical

39. How would you design an experiment to demonstrate the process of pasteurization?

- a. Heat milk to different temperatures and measure microbial growth.
- b. Compare the taste of pasteurized and unpasteurized milk.
- c. Observe the effect of pasteurization on milk colour.
- d. None of the above

40. What creates colourful patterns in a kaleidoscope?

- a. Refraction
- b. Reflection
- c. Diffusion
- d. Absorption

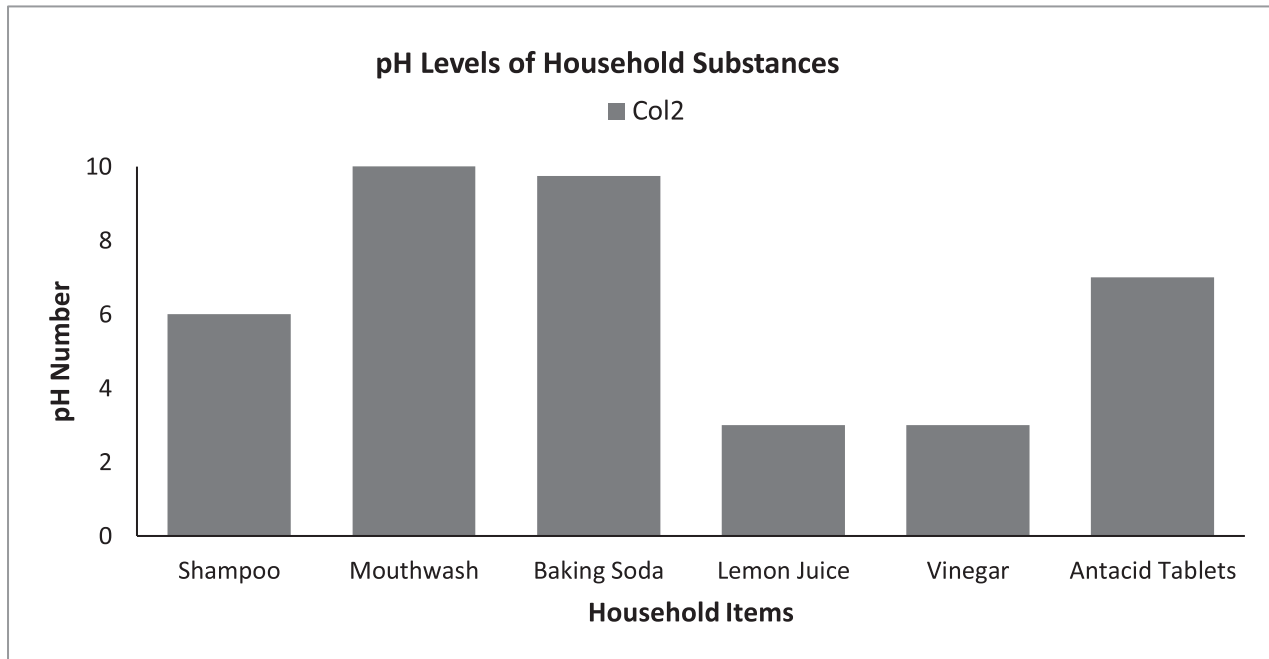
41. What would happen to a plant placed in a hypertonic solution?

- a. It would absorb water and swell.
- b. It would lose water and shrink.
- c. It would maintain its water balance.
- d. It would increase the transpiration rate.

42. Which particle carries a negative charge?

- a. Proton
- b. Neutron
- c. Electron
- d. Photon

43. The following graph shows the pH levels of various household substances.



Which substance would most effectively neutralise stomach acidity (pH 1-3)?

- a. Lemon juice (pH 2)
- b. Baking soda solution (pH 10)
- c. Vinegar (pH 3)
- d. Antacid tablets (pH 7.5)

44. In an experiment, a 10 kg object is lifted 5 meters above the ground. Calculate the potential energy gained by the object. Consider that Acceleration due to gravity is 10 m/s^2 .

- a. 500 J
- b. 50 J
- c. 100 J
- d. 5 J

45. What is the unit of work in the SI system?

- a. Newton (N)
- b. Joule (J)
- c. Meter (m)
- d. Watt (W)

46. Which structure in plants develops into a seed after fertilization?

- a. Ovule
- b. Stigma
- c. Petal
- d. Sepal

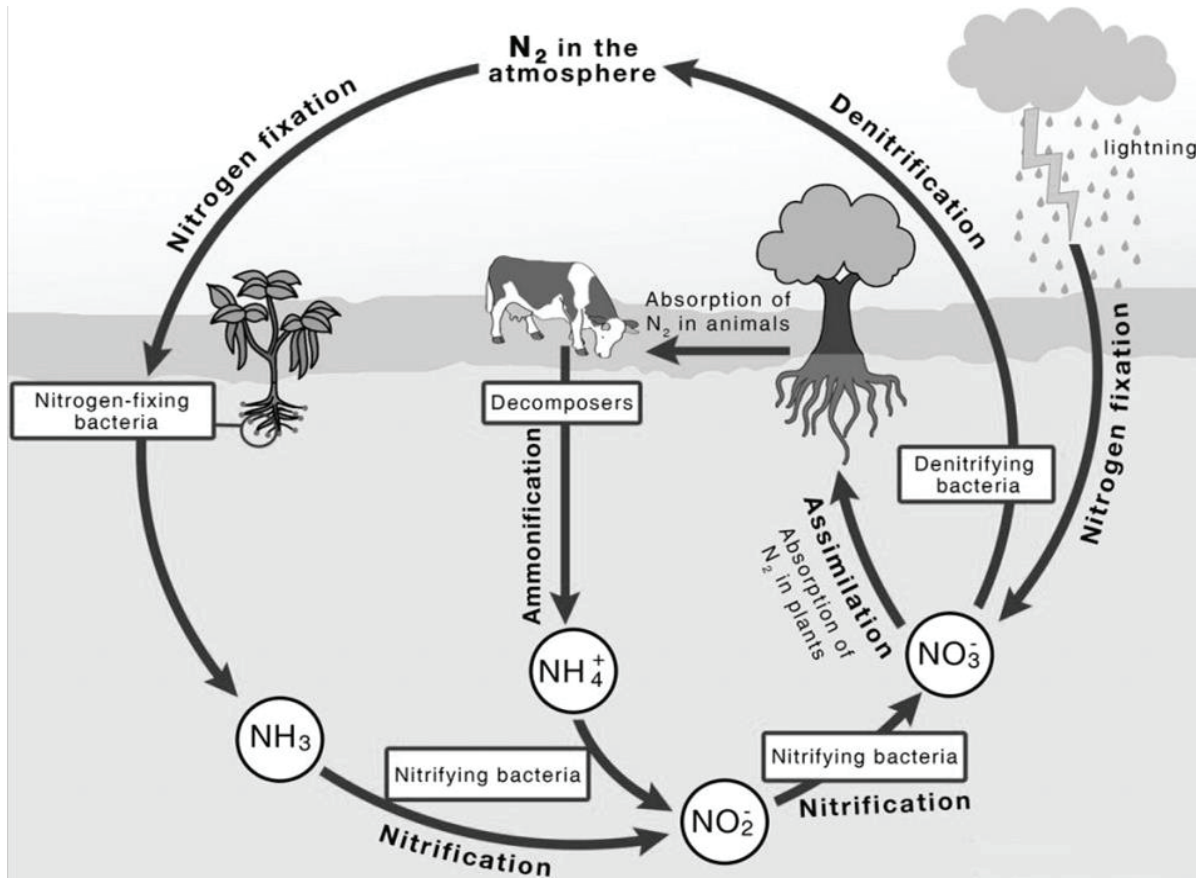
47. Which gland is known as the master gland of the endocrine system?

- a. Thyroid gland
- b. Pituitary gland
- c. Adrenal gland
- d. Pancreas

48. Which observation would confirm that an electric circuit is complete?

- a. The voltmeter shows a reading.
- b. The light bulb glows.
- c. The ammeter shows no reading.
- d. The switch is in the off position.

49. Based on the nitrogen cycle diagram provided, what is the role of denitrifying bacteria?



- Convert nitrogen gas into ammonia.
- Produce nitrogen oxides during lightning.
- Convert nitrogen compounds back into nitrogen gas.
- Fix nitrogen in leguminous plants.

50. Which type of circuit would you use for a string of Christmas lights so that, even if one bulb goes out, the others remain lit?

- Series circuit
- Parallel circuit
- Open circuit
- Short circuit

