

Class 7 · Science Olympiad

Total questions 50	Total marks 60	Time 60 minutes	Negative marking None
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Each question has four options, of which only one is correct. Mark your answer on the answer sheet. The Achievers Section carries higher marks per question. The answer key with full solutions is at the end of this paper.

This is original practice material written to the Level 1 pattern. It is not a past paper and is not affiliated with SOF or any official olympiad body.

Logical Reasoning

10 questions · 1 mark each · 10 marks

Q1. In a row of 32 children, Tara is 6th from the left end. What is Tara's position from the right end?

- (A) 29th (B) 26th (C) 28th (D) 27th

Q2. If TIN is written as 20 - 9 - 14 using the positions of the letters in the alphabet, how is BUS written?

- (A) 2 - 21 - 19 (B) 19 - 21 - 2 (C) 3 - 22 - 20 (D) 25 - 6 - 8

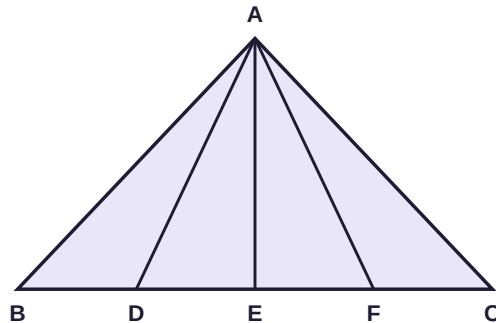
Q3. Which letter comes next? K, M, O, Q, ____

- (A) U (B) T (C) S (D) R

Q4. Count backward in 2s: 28, 26, 24, 22, ____

- (A) 20 (B) 21 (C) 18 (D) 22

Q5. How many triangles are there in the given figure?



- (A) 11 (B) 12 (C) 9 (D) 10

Q6. A father is 18 years older than his son. The son is 16 years old now. How old will the father be after 7 years?

- (A) 42 years (B) 34 years (C) 41 years (D) 48 years

Q7. Pointing to a boy in a photograph, Rahul said, "He is the son of my paternal grandfather's only son." How is the boy related to Rahul?

- (A) Brother (B) Nephew (C) Cousin (D) Uncle

Q8. Which word would come FIRST in a dictionary?

- (A) melon (B) mango (C) mother (D) matter

Q9. In a certain code JAR is written as KBS. How is PEN written in that code?

- (A) RGP (B) ODM (C) OFQ (D) QFO

Q10. Cow : Calf :: Dog : ____

(A) Kitten

(B) Foal

(C) Puppy

(D) Cub

Science

35 questions · 1 mark each · 35 marks

Q11. An echo is caused by:

(A) Refraction of sound

(B) Dispersion of sound

(C) Absorption of sound

(D) Reflection of sound

Q12. How many planets are there in our solar system?

(A) Ten

(B) Nine

(C) Eight

(D) Seven

Q13. Rusting of iron needs which two things?

(A) Carbon dioxide and water

(B) Oxygen and salt only

(C) Nitrogen and water

(D) Oxygen and water

Q14. What is the natural satellite of the Earth called?

(A) A comet

(B) Mars

(C) The Moon

(D) The Sun

Q15. Which of these is a mixture and not a compound?

(A) Carbon dioxide

(B) Air

(C) Water

(D) Common salt

Q16. Water freezes into ice at which temperature?

(A) 10°C

(B) -100°C

(C) 0°C

(D) 100°C

Q17. What kind of energy is stored in a stretched rubber band?

(A) Kinetic energy

(B) Light energy

(C) Sound energy

(D) Potential energy

Q18. What is the process of water changing into vapour called?

(A) Freezing

(B) Melting

(C) Condensation

(D) Evaporation

Q19. Which device converts electrical energy into light energy?

(A) A microphone

(B) A battery

(C) A dynamo

(D) An electric bulb

Q20. Which is the smallest particle of an element that can take part in a reaction?

(A) Crystal

(B) Molecule

(C) Cell

(D) Atom

Q21. How many atoms of oxygen are there in one molecule of carbon dioxide?

(A) Three

(B) One

(C) Four

(D) Two

Q22. Which of these materials is attracted by a magnet?

(A) Cloth

(B) Paper

(C) Glass

(D) Iron

Q23. What is the process of separating salt from sea water by heating called?

(A) Distillation of solids

(B) Filtration

(C) Evaporation

(D) Sublimation

- Q24. Common salt is chemically known as:
- (A) Calcium carbonate (B) Potassium nitrate
(C) Sodium bicarbonate (D) Sodium chloride
- Q25. Through which tiny pores do leaves exchange gases?
- (A) Veins (B) Roots (C) Petals (D) Stomata
- Q26. Which planet is known as the Red Planet?
- (A) Saturn (B) Mars (C) Venus (D) Jupiter
- Q27. Which organ removes waste from the blood and makes urine?
- (A) The liver (B) The lung (C) The heart (D) The kidney
- Q28. Deficiency of which vitamin causes scurvy?
- (A) Vitamin D (B) Vitamin A (C) Vitamin B12 (D) Vitamin C
- Q29. Loss of water vapour from the leaves of a plant is called:
- (A) Respiration (B) Germination
(C) Condensation (D) Transpiration
- Q30. Which liquid helps digest food in the mouth?
- (A) Sweat (B) Bile (C) Saliva (D) Blood
- Q31. Which process do green plants use to make their own food?
- (A) Transpiration (B) Respiration
(C) Photosynthesis (D) Digestion
- Q32. What do we call animals that are active at night?
- (A) Nocturnal animals (B) Herbivores
(C) Aquatic animals (D) Amphibians
- Q33. Which gas do living things release during respiration?
- (A) Oxygen (B) Hydrogen
(C) Nitrogen (D) Carbon dioxide
- Q34. Light travels fastest through which of these?
- (A) Glass (B) Air (C) Water (D) Vacuum
- Q35. What is the function of the root hairs of a plant?
- (A) To make food (B) To hold the flower
(C) To store sunlight (D) To absorb water and minerals
- Q36. How long does the Earth take to complete one rotation on its axis?
- (A) 365 days (B) 30 days (C) 12 hours (D) 24 hours
- Q37. Which of these is a major cause of global warming?
- (A) Walking to school (B) Excess carbon dioxide in the atmosphere
(C) Using solar energy (D) Planting more trees

- Q38. Which organ pumps blood around the body?
 (A) The brain (B) The liver (C) The lungs (D) The heart
- Q39. Which of these is a physical change?
 (A) Burning of paper (B) Rusting of iron
 (C) Cooking of food (D) Melting of ice
- Q40. Which blood cells help fight infection?
 (A) Platelets (B) Plasma
 (C) White blood cells (D) Red blood cells
- Q41. An eclipse of the Sun happens when:
 (A) The Earth comes between the Sun and the Moon
 (B) The Sun comes between the Earth and the Moon
 (C) The Earth stops rotating (D) The Moon comes between the Earth and the Sun
- Q42. Where do fish take in oxygen from water?
 (A) Through their gills (B) Through their scales
 (C) Through their fins (D) Through their tail
- Q43. What causes the change of seasons on the Earth?
 (A) The Moon blocking the Sun (B) The tilt of the Earth as it orbits the Sun
 (C) Changes in the Sun's size (D) The Earth moving closer to the Sun
- Q44. Green colour in leaves is due to which pigment?
 (A) Carotene (B) Haemoglobin (C) Melanin (D) Chlorophyll
- Q45. Which layer of the atmosphere protects us from harmful ultraviolet rays?
 (A) The magnetosphere (B) The troposphere
 (C) The ozone layer (D) The exosphere

Achievers Section

5 questions · 3 marks each · 15 marks

- Q46. If FISH is coded as KNXM, how is WIND coded?
 (A) GSXN (B) RDIY (C) BNSI (D) ISNB
- Q47. Rahul finished the puzzle in two minutes and said it was 'to let the cat out of the bag'. What did he mean?
 (A) to buy a pet (B) to reveal a secret
 (C) to make a mistake (D) to lose something
- Q48. 2 taps together fill a tank in 45 minutes. How long will 6 taps of the same kind take to fill it?
 (A) 15 minutes (B) 12 minutes (C) 18 minutes (D) 45 minutes
- Q49. A river rises in the Himalayas, flows east across northern India and forms the world's largest delta before reaching the Bay of Bengal. Which river is it?
 (A) The Narmada (B) The Ganga (C) The Godavari (D) The Krishna

Q50. The clock in the figure shows 10:00. What is the angle between the hour hand and the minute hand?



- (A) 75° (B) 90° (C) 45° (D) 60°

Answer Key

1	2	3	4	5	6	7	8	9	10
D	A	C	A	D	C	A	B	D	C
11	12	13	14	15	16	17	18	19	20
D	C	D	C	B	C	D	D	D	D
21	22	23	24	25	26	27	28	29	30
D	D	C	D	D	B	D	D	D	C
31	32	33	34	35	36	37	38	39	40
C	A	D	D	D	D	B	D	D	C
41	42	43	44	45	46	47	48	49	50
D	A	B	D	C	C	B	A	B	D

Solutions

- Q1. (D) Position from the right = total - position from the left + 1 = $32 - 6 + 1 = 27$ th.
- Q2. (A) B is letter 2 and U is letter 21 and S is letter 19, so $BUS = 2 - 21 - 19$.
- Q3. (C) Each letter moves 2 place(s) forward in the alphabet, so after Q comes S.
- Q4. (A) Subtracting 2 from 22 gives 20.
- Q5. (D) Every triangle has apex A and two of the 5 base points as its other corners. Choosing 2 from 5 gives 10 triangles.
- Q6. (C) The father is $16 + 18 = 34$ now, so after 7 years he will be $34 + 7 = 41$ years.
- Q7. (A) Rahul's paternal grandfather's only son is Rahul's own father, so that man's son is Rahul's own sibling. The answer is Brother.
- Q8. (B) In alphabetical order the words run mango, matter, melon, mother, so mango comes first.
- Q9. (D) Each letter moves 1 place(s) forward in the alphabet, so PEN becomes QFO.
- Q10. (C) The second word relates to the first in the same way Puppy relates to Dog.
- Q11. (D) Sound bouncing back off a surface produces an echo. The answer is Reflection of sound.
- Q12. (C) There are eight planets, from Mercury to Neptune.
- Q13. (D) Iron rusts when it is exposed to both oxygen and moisture. The answer is Oxygen and water.

- Q14. (C) The Moon is the Earth's only natural satellite.
- Q15. (B) Air is a mixture of gases that keep their own properties.
- Q16. (C) At normal pressure water freezes at 0°C and boils at 100°C .
- Q17. (D) A stretched band stores elastic potential energy.
- Q18. (D) Evaporation is liquid water turning into vapour; condensation is the reverse.
- Q19. (D) A bulb takes in electrical energy and gives out light and heat. The answer is An electric bulb.
- Q20. (D) An atom is the smallest particle of an element that takes part in a chemical change.
- Q21. (D) Carbon dioxide is CO_2 , so it has two oxygen atoms.
- Q22. (D) Magnets attract iron, nickel and cobalt. Glass, paper and cloth are not magnetic.
- Q23. (C) Heating the water away leaves the salt behind - this is evaporation.
- Q24. (D) Common salt is sodium chloride, NaCl .
- Q25. (D) Stomata are small openings on the leaf surface for gas exchange.
- Q26. (B) Mars looks red because of the iron oxide dust on its surface.
- Q27. (D) The kidneys filter the blood and produce urine.
- Q28. (D) Scurvy is caused by a lack of vitamin C, found in citrus fruits and amla.
- Q29. (D) Transpiration is the loss of water vapour through the stomata.
- Q30. (C) Saliva moistens food and begins the digestion of starch in the mouth.
- Q31. (C) Photosynthesis makes glucose from carbon dioxide and water using sunlight.
- Q32. (A) Animals such as owls and bats that are active at night are called nocturnal. The answer is Nocturnal animals.
- Q33. (D) Respiration uses oxygen and releases carbon dioxide.
- Q34. (D) Light travels fastest in a vacuum and slows down in denser media.
- Q35. (D) Root hairs greatly increase the surface for absorbing water and minerals. The answer is To absorb water and minerals.
- Q36. (D) One rotation takes about 24 hours and gives us day and night.
- Q37. (B) Greenhouse gases such as carbon dioxide trap heat and warm the planet. The answer is Excess carbon dioxide in the atmosphere.
- Q38. (D) The heart pumps blood to every part of the body.
- Q39. (D) Melting changes only the state, not the substance, so it is a physical change. The answer is Melting of ice.
- Q40. (C) White blood cells defend the body against germs.
- Q41. (D) In a solar eclipse the Moon passes between the Earth and the Sun and blocks its light. The answer is The Moon comes between the Earth and the Sun.
- Q42. (A) Fish breathe using gills, which take dissolved oxygen out of the water. The answer is Through their gills.
- Q43. (B) The Earth's axis is tilted, so different parts get more direct sunlight at different times of the year. The answer is The tilt of the Earth as it orbits the Sun.
- Q44. (D) Chlorophyll gives leaves their green colour and traps sunlight for photosynthesis.
- Q45. (C) The ozone layer absorbs most of the Sun's harmful ultraviolet radiation.
- Q46. (C) Every letter moves 5 place(s) forward, so WIND becomes BNSI.
- Q47. (B) In this sentence 'to let the cat out of the bag' means to reveal a secret.
- Q48. (A) One tap alone would take $2 \times 45 = 90$ minutes. With 6 taps the time is $90 / 6 = 15$ minutes.
- Q49. (B) The Ganga flows east and forms the Sundarbans delta at the Bay of Bengal.
- Q50. (D) The minute hand is at 0° from 12 and the hour hand at 300° from 12, so the angle between them is 60° .

