

Class 10 · 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. If the 18th of a month is a Thursday, what day of the week is the 27th of the same month?

- (A) Sunday (B) Saturday (C) Monday (D) Friday

Q2. A father is 21 years older than his son. The son is 20 years old now. How old will the father be after 8 years?

- (A) 50 years (B) 49 years (C) 57 years (D) 41 years

Q3. Doctor : Hospital :: Teacher : ____

- (A) Farm (B) School (C) Court (D) Factory

Q4. Nila walks 6 m north, then 4 m east, then 5 m south. Where is Nila now, relative to the starting point?

- (A) 1 m north and 4 m east (B) 6 m north and 4 m east
(C) 2 m north and 4 m east (D) 1 m north and 5 m east

Q5. In a queue, Nita is 12th from the front and 6th from the back. How many people are in the queue altogether?

- (A) 16 (B) 18 (C) 19 (D) 17

Q6. Three of the following four are alike and form a group. Which one does NOT belong?

- (A) Car (B) Train (C) Table (D) Truck

Q7. Which letter comes next? D, H, L, P, ____

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

Q8. Arjun walks 9 m towards north, turns right and walks 8 m, then turns right again and walks 9 m. How far is Arjun from the starting point, and in which direction?

- (A) 8 m, East (B) 8 m, West (C) 9 m, East (D) 17 m, North

Q9. In a row of 29 children, Arjun is 13th from the left end. What is Arjun's position from the right end?

- (A) 19th (B) 18th (C) 17th (D) 16th

Q10. Find the next number in the pattern: 2, 5, 11, 23, ____

- (A) 48 (B) 47 (C) 45 (D) 46

Science

35 questions · 1 mark each · 35 marks

- Q11. Which planet is nearest to the Sun?
(A) Earth (B) Venus (C) Mars (D) Mercury
- Q12. What is the chemical symbol for sodium?
(A) S (B) Na (C) Sd (D) So
- Q13. Which of these is a non-biodegradable waste?
(A) Paper (B) Plastic bag
(C) Cotton cloth (D) Vegetable peel
- Q14. What is the normal body temperature of a healthy human?
(A) About 42°C (B) About 37°C (C) About 30°C (D) About 25°C
- Q15. Which planet is known as the Red Planet?
(A) Venus (B) Saturn (C) Jupiter (D) Mars
- Q16. What is the function of the root hairs of a plant?
(A) To hold the flower (B) To absorb water and minerals
(C) To store sunlight (D) To make food
- Q17. Deficiency of which vitamin causes scurvy?
(A) Vitamin C (B) Vitamin D (C) Vitamin B12 (D) Vitamin A
- Q18. Which part of the plant carries water from the roots to the leaves?
(A) The xylem (B) The phloem (C) The stomata (D) The cuticle
- Q19. At what temperature does water boil at normal pressure?
(A) 212°C (B) 50°C (C) 100°C (D) 0°C
- Q20. What causes the change of seasons on the Earth?
(A) The Earth moving closer to the Sun (B) The tilt of the Earth as it orbits the Sun
(C) Changes in the Sun's size (D) The Moon blocking the Sun
- Q21. How many planets are there in our solar system?
(A) Nine (B) Eight (C) Seven (D) Ten
- Q22. Which of these diseases is caused by a virus?
(A) Typhoid (B) Tuberculosis (C) Cholera (D) Common cold
- Q23. Which part of the cell controls its activities?
(A) The nucleus (B) The vacuole
(C) The cytoplasm (D) The cell wall
- Q24. What is the SI unit of electric current?
(A) Ohm (B) Volt (C) Ampere (D) Watt
- Q25. How long does the Earth take to complete one rotation on its axis?
(A) 365 days (B) 12 hours (C) 24 hours (D) 30 days

- Q26. What is the process of separating salt from sea water by heating called?
- (A) Distillation of solids (B) Evaporation
(C) Sublimation (D) Filtration
- Q27. Which gas do plants take in during photosynthesis?
- (A) Carbon dioxide (B) Hydrogen
(C) Oxygen (D) Nitrogen
- Q28. What is the SI unit of power?
- (A) Newton (B) Joule (C) Volt (D) Watt
- Q29. What is the unit of force?
- (A) Watt (B) Pascal (C) Joule (D) Newton
- Q30. Which of these is a major cause of global warming?
- (A) Walking to school (B) Planting more trees
(C) Using solar energy (D) Excess carbon dioxide in the atmosphere
- Q31. Green colour in leaves is due to which pigment?
- (A) Haemoglobin (B) Carotene (C) Chlorophyll (D) Melanin
- Q32. Two objects of different masses are dropped in a vacuum. Which lands first?
- (A) Neither falls in a vacuum (B) The heavier one
(C) They land together (D) The lighter one
- Q33. Which part of the plant develops into a fruit?
- (A) The ovary (B) The sepal (C) The stamen (D) The petal
- Q34. What is the chemical symbol for gold?
- (A) Ag (B) Go (C) Au (D) Gd
- Q35. What kind of energy does a moving object have?
- (A) Kinetic energy (B) Chemical energy
(C) Sound energy (D) Nuclear energy
- Q36. An eclipse of the Sun happens when:
- (A) The Sun comes between the Earth and the Moon (B) The Moon comes between the Earth and the Sun
(C) The Earth comes between the Sun and the Moon (D) The Earth stops rotating
- Q37. Water freezes into ice at which temperature?
- (A) 0°C (B) -100°C (C) 100°C (D) 10°C
- Q38. What happens to the speed of light when it enters glass from air?
- (A) It becomes zero (B) It decreases
(C) It stays the same (D) It increases

Q39. Which food gives us the most energy?

- (A) Vitamins (B) Water
(C) Minerals (D) Carbohydrates

Q40. An echo is caused by:

- (A) Refraction of sound (B) Reflection of sound
(C) Absorption of sound (D) Dispersion of sound

Q41. Which of these is a renewable source of energy?

- (A) Petrol (B) Diesel (C) Solar energy (D) Coal

Q42. Rusting of iron needs which two things?

- (A) Carbon dioxide and water (B) Oxygen and water
(C) Oxygen and salt only (D) Nitrogen and water

Q43. Which is the smallest particle of an element that can take part in a reaction?

- (A) Crystal (B) Cell (C) Molecule (D) Atom

Q44. Which mirror is used as a rear-view mirror in vehicles?

- (A) A convex mirror (B) A plane mirror
(C) A concave mirror (D) A cylindrical lens

Q45. How many bones does an adult human body have?

- (A) 300 (B) 212 (C) 201 (D) 206

Achievers Section

5 questions · 3 marks each · 15 marks

Q46. If DESK is coded as FGUM, how is ROAD coded?

- (A) FCQT (B) TQCF (C) PMYB (D) VSEH

Q47. Find the next number: 2, 4, 8, 14, 22, ____

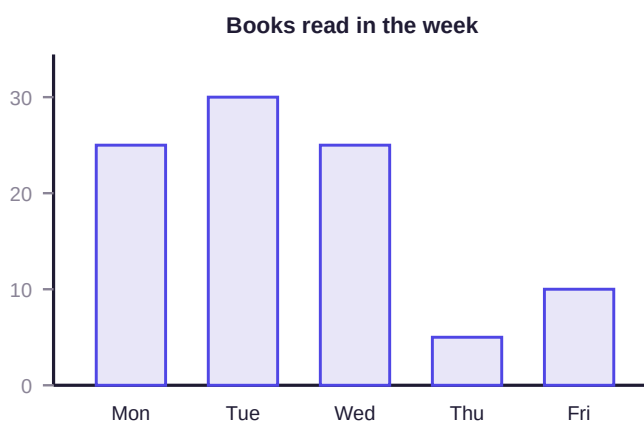
- (A) 30 (B) 32 (C) 34 (D) 33

Q48. The clock in the figure shows 2:30. What is the angle between the hour hand and the minute hand?



- (A) 90° (B) 120° (C) 105° (D) 135°

Q49. The bar graph shows the number of books read by a class on each day of one week. How many books were read in the whole week?



- (A) 105 (B) 95 (C) 100 (D) 90

Q50. The average of 3 numbers is 38. 2 of them are 55, 48. What is the remaining number?

- (A) 11 (B) 13 (C) 38 (D) 9

Answer Key

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

Solutions

Q1. (B) 9 days later is 1 week(s) and 2 day(s), so the day moves 2 place(s) on from Thursday to Saturday.

Q2. (B) The father is $20 + 21 = 41$ now, so after 8 years he will be $41 + 8 = 49$ years.

Q3. (B) The second word relates to the first in the same way School relates to Teacher.

Q4. (A) The 5 m south cancels part of the 6 m north, leaving $6 - 5 = 1$ m north, and the 4 m east is unchanged. So Nila is 1 m north and 4 m east.

Q5. (D) Counting Nita only once: $12 + 6 - 1 = 17$ people.

Q6. (C) Train, Car, Truck are all vehicles; Table is not.

Q7. (C) Each letter moves 4 place(s) forward in the alphabet, so after P comes T.

Q8. (A) The two 9 m walks (north, then south) cancel out, leaving only the 8 m walked towards the east. So the answer is 8 m, East.

Q9. (C) Position from the right = total - position from the left + 1 = $29 - 13 + 1 = 17$ th.

- Q10. (B) Each number is doubled and 1 is added: $23 \times 2 + 1 = 47$.
- Q11. (D) Mercury is the closest planet to the Sun.
- Q12. (B) Sodium has the symbol Na, from the Latin natrium.
- Q13. (B) Plastic does not rot away naturally, so it is non-biodegradable. The answer is Plastic bag.
- Q14. (B) Normal human body temperature is about 37°C (98.6°F).
- Q15. (D) Mars looks red because of the iron oxide dust on its surface.
- Q16. (B) Root hairs greatly increase the surface for absorbing water and minerals. The answer is To absorb water and minerals.
- Q17. (A) Scurvy is caused by a lack of vitamin C, found in citrus fruits and amla.
- Q18. (A) Xylem tissue carries water upwards; phloem carries food. The answer is The xylem.
- Q19. (C) Water boils at 100°C at normal atmospheric pressure.
- Q20. (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.
- Q21. (B) There are eight planets, from Mercury to Neptune.
- Q22. (D) The common cold is viral; the other three are caused by bacteria.
- Q23. (A) The nucleus is the control centre of the cell.
- Q24. (C) Electric current is measured in amperes (A).
- Q25. (C) One rotation takes about 24 hours and gives us day and night.
- Q26. (B) Heating the water away leaves the salt behind - this is evaporation.
- Q27. (A) Plants take in carbon dioxide and release oxygen during photosynthesis.
- Q28. (D) Power is the rate of doing work, measured in watts.
- Q29. (D) Force is measured in newtons (N).
- Q30. (D) Greenhouse gases such as carbon dioxide trap heat and warm the planet. The answer is Excess carbon dioxide in the atmosphere.
- Q31. (C) Chlorophyll gives leaves their green colour and traps sunlight for photosynthesis.
- Q32. (C) With no air resistance all objects fall with the same acceleration. The answer is They land together.
- Q33. (A) After fertilisation the ovary of the flower grows into the fruit.
- Q34. (C) Gold has the symbol Au, from the Latin aurum.
- Q35. (A) Energy due to motion is called kinetic energy.
- Q36. (B) 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.
- Q37. (A) At normal pressure water freezes at 0°C and boils at 100°C .
- Q38. (B) Glass is optically denser than air, so light slows down and bends. The answer is It decreases.
- Q39. (D) Carbohydrates such as rice, wheat and potato are the body's main energy food.
- Q40. (B) Sound bouncing back off a surface produces an echo. The answer is Reflection of sound.
- Q41. (C) Sunlight is renewable; coal, petrol and diesel are fossil fuels that run out. The answer is Solar energy.
- Q42. (B) Iron rusts when it is exposed to both oxygen and moisture. The answer is Oxygen and water.
- Q43. (D) An atom is the smallest particle of an element that takes part in a chemical change.
- Q44. (A) A convex mirror gives a wider field of view, so it is used as a rear-view mirror.
- Q45. (D) An adult skeleton has 206 bones; a baby is born with about 300, which later fuse.
- Q46. (B) Every letter moves 2 place(s) forward, so ROAD becomes TQCF.
- Q47. (B) The gaps grow 2, 4, 6, 8, so the next gap is 10 and $22 + 10 = 32$.
- Q48. (C) The minute hand is at 180° from 12 and the hour hand at 75° from 12, so the angle between them is 105° .
- Q49. (B) $25 + 30 + 25 + 5 + 10 = 95$ books.

Q50. (A) The 3 numbers add up to $38 \times 3 = 114$. The given numbers add up to 103, so the missing number is $114 - 103 = 11$.

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