LRO · Original Practice Content

Class 4 | Logical Reasoning Olympiad

40 Questions · With Answer Key
Syllabax Olympiad Series
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Instructions: Each question has one correct answer. Choose the best option (A/B/C/D). Answer key is provided at the end. This paper is for practice only — not an official exam paper. Recommended time: **45 minutes**.

Q1. If A = 1, B = 2, ..., Z = 26, what is the value of LOGIC?

A. 46 **B.** 55
C. 52 **D.** 60

Q2. In a code where each letter is replaced by the letter 2 positions after it, TABLE becomes:

A. VCDNG **B.** UCNNG
C. VCNJG **D.** VCNJF

Q3. Rearrange SILENT to find a word meaning 'listen': which anagram is correct?

A. TINSEL **B.** ENLIST
C. LISTEN **D.** INLETS

Q4. A sequence: 2, 6, 12, 20, 30, ___. The pattern is n(n+1). Next term (n=6)?

A. 36 **B.** 44
C. 42 **D.** 40

Q5. A, B, C, D, E are arranged in a circle. A is between B and E. C is between D and B. The arrangement clockwise is A, B, C, D, E. Who is opposite to A?

A. B **B.** D
C. C **D.** E

Q6. If the day before yesterday was Thursday, what day is tomorrow?

A. Sunday **B.** Monday
C. Saturday **D.** Tuesday

Q7. Which of the following is logically equivalent to 'If P then Q'?

A. If Q then P

B. If not Q then not P (contrapositive)

C. If not P then not Q

D. P and Q are unrelated

Q8. In a tournament, each of 5 players plays every other player once. The total number of games is:

A. 20

B. 12

C. 10

D. 15

Q9. Find the next term: 1, 2, 6, 24, 120, ___

A. 240

B. 480

C. 720

D. 600

Q10. Statements: No fish is a mammal. All whales are mammals. Conclusion: No whale is a fish. This is:

A. False

B. Uncertain

C. True

D. A fallacy

Q11. A shopkeeper sells an item for ₹120 at 20% profit. What is the cost price?

A. ₹96

B. ₹104

C. ₹100

D. ₹108

Q12. Find the MISSING number: 3, 9, 27, ___, 243

A. 54

B. 72

C. 81

D. 90

Q13. If ABCD is a parallelogram and angle A = 70°, what is angle C?

A. 110°

B. 90°

C. 70°

D. 140°

Q14. ODD ONE OUT based on a hidden property: 14, 21, 28, 32, 35, 42

A. 21

B. 42

C. 32

D. 28

Q15. How many 3-digit numbers are divisible by 7?

A. 121 **B.** 127
C. 128 **D.** 130

Q16. A, B, C, D are four friends. A is older than B. C is younger than D. B is older than D. Order from oldest to youngest is:

A. A, B, C, D **B.** A, C, B, D
C. A, B, D, C **D.** D, C, B, A

Q17. Which is the 100th term of the series 1, 4, 9, 16, 25, ... (perfect squares)?

A. 9801 **B.** 100
C. 10000 **D.** 9900

Q18. A ball is dropped from 100 m height. It bounces to half the height each time. Total distance after 3 bounces is:

A. 175 m **B.** 162.5 m
C. 187.5 m **D.** 200 m

Q19. If all doctors are intelligent and some doctors are kind, which conclusion is valid?

A. All intelligent people are doctors **B.** No kind person is intelligent
C. Some intelligent people are kind **D.** All kind people are doctors

Q20. In how many ways can you arrange the letters of LEVEL?

A. 120 **B.** 20
C. 30 **D.** 60

Q21. A pipe fills 1/3 of a tank per hour. Another fills 1/4 per hour. Together they fill 1/3 + 1/4 = 7/12 per hour. Time to fill the tank:

A. 1 hour 45 mins **B.** 1 hour 20 mins
C. 1 hour 43 mins **D.** 2 hours

Q22. If the sum of interior angles of a polygon is 1080°, how many sides does it have?

A. 7 **B.** 9
C. 8 **D.** 10

Q23. Which of the following series follows the rule: each term = previous term + 2n (where n starts at 1)?

A. 1, 3, 7, 13, 21
B. 1, 2, 4, 8, 16
C. 1, 3, 7, 13, 21
D. 2, 5, 10, 17, 26

Q24. Pointing at a photo, Rekha says 'She is the daughter of my grandfather's only son.' Who is the person in the photo to Rekha?

A. aunt
B. mother
C. sister
D. cousin

Q25. The contrapositive of 'All mammals breathe air' is:

A. No non-mammals breathe air
B. All non-mammals do not breathe air
C. If it does not breathe air, it is not a mammal
D. Some mammals do not breathe air

Q26. A is 5 km east of B. C is 3 km north of A. D is 5 km west of C. How far is D from B?

A. 3 km south
B. 5 km north
C. 3 km north
D. 8 km north

Q27. The average of 5 numbers is 20. Four of them are 15, 18, 22, 25. The fifth number is:

A. 18
B. 22
C. 20
D. 24

Q28. In a certain language APPLE = BQQMF (each letter + 1). Then MANGO = ?

A. NBOHO
B. MBOHP
C. NBOHI
D. NBPHI

Q29. Which 4-digit number is a perfect square and a palindrome?

A. 1111
B. 4444
C. 9009
D. there is no such 4-digit palindrome perfect square

Q30. Find the NUMBER that is both a perfect square and a perfect cube below 100: 1, 64.

A. 36
B. 49
C. 64
D. 81

Q31. What is the maximum number of Mondays in a non-leap year?

A. 52 **B.** 51
C. 53 **D.** 54

Q32. Statements: Some poets are dreamers. All dreamers are optimists. Conclusion 1: Some poets are optimists. Conclusion 2: All optimists are poets. Which is valid?

A. Only 2 **B.** Both 1 and 2
C. Only 1 **D.** Neither

Q33. How many prime numbers lie between 50 and 70?

A. 2 **B.** 4
C. 5 **D.** 3

Q34. A number leaves remainder 3 when divided by 7, and remainder 2 when divided by 5. The smallest such positive number is:

A. 17 **B.** 10
C. 12 **D.** 22

Q35. A person walks 4 km north, turns right and walks 3 km. Distance from starting point:

A. 4 km **B.** 6 km
C. 5 km **D.** 7 km

Q36. Complete the analogy: Mango : Fruit :: Rose : ___

A. Garden **B.** Thorn
C. Flower **D.** Petal

Q37. Which of the following is NOT a valid syllogism conclusion from 'All A are B, All B are C'?

A. All A are C **B.** Some C are A
C. No A is C **D.** Some B are C

Q38. In a class of 40, 25 play cricket and 20 play football. 10 play both. How many play neither?

A. 10 **B.** 3
C. 5 **D.** 15

Q39. What is the NEXT number: 1, 3, 6, 10, 15, 21, ___?

A. 27 **B.** 30

C. 28 **D.** 29

Q40. A number has exactly three factors. It is necessarily a:

A. prime number **B.** even number

C. perfect square of a prime **D.** composite number

Answer Key

Q1: C Q2: C Q3: C Q4: C Q5: C Q6: A Q7: B Q8: C Q9: C Q10: C

Q11: C Q12: C Q13: C Q14: C Q15: C Q16: C Q17: C Q18: C Q19: C

Q20: C Q21: A Q22: C Q23: C Q24: C Q25: C Q26: C Q27: C Q28: A

Q29: D Q30: C Q31: C Q32: C Q33: B Q34: C Q35: C Q36: C Q37: C

Q38: C Q39: C Q40: C