School Connect Online

SCO INTERNATIONAL MENTAL ABILITY OLYMPIAD

CLASS 5 OFFICIAL QUESTION PAPER

Question Paper 2025-26 with Answer Key and Explanations

Designed from Grade 5 mental ability pathways and aligned with SCO's guided preparation, reasoning practice, reporting, and future-ready academic growth.

- age-fit reasoning practice for Grade 5 learners globally
- compact question-number labels with all passages and figures inside the question block
- answer key and explanation support for students, teachers, and parents

Series	Coding	Alphabet	Operations	Puzzles
AI	Entrepreneurship	GK	Calendar	Ranking

Exam	SCO International Mental Ability Olympiad
Class	5
Paper Type	Official Question Paper
Total Questions	50
Time Allowed	60 minutes
Marking	One correct answer for each question; Achievers Section may be used for advanced practice.

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Questions with Answer Key and Explanations

Q1. Find the next number in the series: 2, 4, 7, 11, ?

A. 15	B. 16
C. 17	D. 18

Answer: B. Explanation: The gaps are 2, 3, 4, so the next gap is 5. Therefore 11 + 5 = 16.

Q2. In a code language, each letter is replaced by the letter two places ahead in the alphabet. What is the code for CAT?

A. ECV	B. DBU
C. EBU	D. DBV

Answer: A. Explanation: C becomes E, A becomes C, and T becomes V. Therefore CAT becomes ECV.

Q3. Which letter comes next in the sequence: A, C, F, J, ?

A. K	B. L
C. O	D. P

Answer: C. Explanation: The positions are 1, 3, 6, 10. The increases are +2, +3, +4, so next is +5: 10 + 5 = 15, which is O.

Q4. What is the value of 6 x 7 - 8 + 3?

A. 35	B. 36
C. 37	D. 38

Answer: C. Explanation: Use order of operations: 6 x 7 = 42; 42 - 8 + 3 = 37.

Q5. A jar contains 12 blue marbles and 15 red marbles. What is the probability of drawing a blue marble?

A. 3/9	B. 4/9
C. 5/9	D. 6/9

Answer: B. Explanation: Total marbles = 27. Probability of blue = 12/27 = 4/9.

Q6. If July 1 is a Monday, what day of the week is July 31?

A. Tuesday	B. Wednesday
C. Thursday	D. Friday

Answer: B. Explanation: July 31 is 30 days after July 1. 30 leaves a remainder of 2 when divided by 7, so Monday advances to Wednesday.

Q7. In a race with 30 children, a child finishes 8th from the top. What is the rank from the bottom?

A. 22nd	B. 23rd
C. 24th	D. 25th

Answer: B. Explanation: Rank from bottom = total - rank from top + 1 = 30 - 8 + 1 = 23.

Q8. A father says, "I am twice as old as my son. Five years ago, I was three times as old as he was." What is the son's current age?

A. 8	B. 9
C. 10	D. 11

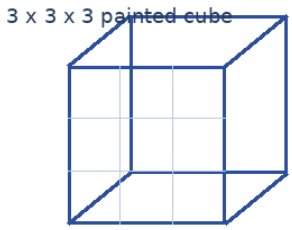
Answer: C. Explanation: Let the son be x. Father is 2x. Five years ago: 2x - 5 = 3(x - 5). Solving gives x = 10.

Q9. In a family, R is the sister of S, and S is the mother of T. How is R related to T?

A. Aunt	B. Cousin
C. Sister	D. Niece

Answer: A. Explanation: R is the sister of T's mother, so R is T's aunt.

Q10. A cube is painted on all faces and then cut into 27 equal cubes. How many small cubes have exactly two faces painted?



A. 6	B. 8
C. 10	D. 12

Answer: D. Explanation: In a 3 x 3 x 3 cube, one cube on each of the 12 edges has exactly two painted faces.

Q11. Find the next number in the series: 3, 7, 14, 24, 37, ?

A. 49	B. 51
C. 53	D. 55

Answer: C. Explanation: The differences are 4, 7, 10, 13. The next difference is 16, so 37 + 16 = 53.

Q12. In a secret code, each letter is shifted 2 positions backward and then the result is reversed. What is the code for BIRD?

A. BPGZ	B. ZGPB
C. BZPG	D. GPZB

Answer: A. Explanation: BIRD shifted backward gives ZGPB. Reversing it gives BPGZ.

Q13. A letter sequence is formed by adding the sum of digits of the current letter position. Starting from C, what is the 4th letter?

A. I	B. L
C. O	D. Q

Answer: C. Explanation: C = 3, then F = 6, then L = 12, then 12 + (1 + 2) = 15, which is O.

Q14. Define a new operation: a @ b = (a + b) + (a x b). What is 7 @ 3?

A. 28	B. 29
C. 31	D. 32

Answer: C. Explanation: (7 + 3) + (7 x 3) = 10 + 21 = 31.

Q15. A jar contains 15 blue and 20 red marbles. What is the minimum number of marbles to pick to be sure of at least 4 blue marbles?

A. 18	B. 20
C. 21	D. 24

Answer: D. Explanation: In the worst case, all 20 red marbles come first. Then 4 more picks are needed, so 24 picks guarantee 4 blue marbles.

Q16. If January 1, 2025 is a Wednesday, what day of the week is May 15, 2025?

May 2025

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	**10**
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

A. Tuesday	B. Wednesday
C. Thursday	D. Friday

Answer: C. Explanation: From Jan 1 to May 15 is 134 days later. 134 mod 7 = 1, so Wednesday becomes Thursday.

Q17. In a competition with 40 students, a student ranks 8th from the top. What is the rank from the bottom?

A. 33rd	B. 32nd
C. 31st	D. 30th

Answer: A. Explanation: 40 - 8 + 1 = 33.

Q18. If 5(x + 2) = 3(x + 6), what is the value of x?

A. 4	B. 6
C. 8	D. 10

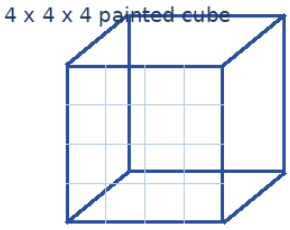
Answer: A. Explanation: 5x + 10 = 3x + 18, so 2x = 8 and x = 4.

Q19. M is the daughter of N, and N is the sister of O. If O is male, how is O related to M?

A. Aunt	B. Uncle
C. Cousin	D. Brother

Answer: B. Explanation: O is the brother of M's parent N, so O is M's uncle.

Q20. A cube is painted on all faces and cut into 64 equal cubes. How many small cubes have exactly three painted faces?



A. 4	B. 6
C. 8	D. 12

Answer: C. Explanation: Only corner cubes have three painted faces, and a cube has 8 corners.

Q21. A library sorts books by page count: 100, 110, 120, 130, 140, 150. A book has 140 pages. What is its position?

A. 3rd	B. 4th
C. 5th	D. 6th

Answer: C. Explanation: The sequence in ascending order places 140 as the fifth value.

Q22. A product code takes the first two letters GI, changes each to its mirror letter, shifts each forward by 6, and adds the 3rd odd term from 5, 7, 9. What is the code?

A. ZX7	B. ZX9
C. TY9	D. RX9

Answer: B. Explanation: G and I mirror to T and R. Shifting by 6 gives Z and X. The 3rd term is 9, so the code is ZX9.

Q23. A bus leaves at 7:10 AM instead of 7:00 AM. Its normal 40-minute journey increases by 25%. What is the arrival time?

A. 7:55 AM	B. 8:00 AM
C. 8:05 AM	D. 8:10 AM

Answer: B. Explanation: 25% of 40 is 10, so travel time becomes 50 minutes. 7:10 + 50 minutes = 8:00 AM.

Q24. Apple prices form a series: $1.00, $1.20, $1.40, and so on. What is the total cost of the first 5 apples before discount?

A. $6.00	B. $6.50
C. $7.00	D. $7.50

Answer: C. Explanation: The first five prices are 1.00, 1.20, 1.40, 1.60, 1.80. Their sum is 7.00.

Q25. A father is twice as old as his daughter. Ten years ago he was three times as old as she was. His sister is 5 years younger than him. What is the aunt's age?

A. 33	B. 35
C. 37	D. 39

Answer: B. Explanation: Daughter = 20 and father = 40 by solving 2x - 10 = 3(x - 10). Aunt = 40 - 5 = 35.

Q26. In an 8 x 8 x 8 painted cube, add the number of small cubes with exactly one painted face to the number with exactly three painted faces, then subtract 10.

A. 210	B. 212
C. 214	D. 216

Answer: C. Explanation: One-painted cubes = 6 x (8 - 2)^2 = 216. Three-painted cubes = 8. Total 224; 224 - 10 = 214.

Q27. A student named LIAM registers in March on day 05. The code uses first two letters LI, mirror conversion, shift forward by 3, and appends 05. What is the code?

A. RU05	B. RS05
C. RT05	D. RV05

Answer: A. Explanation: L mirrors to O and I mirrors to R. Shifting by 3 gives R and U, then append 05: RU05.

Q28. In a 100 m race, times are 12.35, 12.30, 12.33, 12.38, 12.40 seconds. What is the rank of the 12.33 s runner?

A	12.35
B	12.30
C	12.33
D	12.38

A. 1st	B. 2nd
C. 3rd	D. 4th

Answer: B. Explanation: Ascending times are 12.30, 12.33, 12.35, 12.38, 12.40. Therefore 12.33 s is 2nd.

Q29. Donations are 30, then each increase grows by 6: 36, 48, 66, 90. What is the total of the first 5 donations?

A. $260	B. $270
C. $280	D. $290

Answer: B. Explanation: 30 + 36 + 48 + 66 + 90 = 270.

Q30. A score of 58% increases by 10% of the original score plus 3 points. What is the new score approximately?

A. 64%	B. 66%
C. 67%	D. 68%

Answer: C. Explanation: 10% of 58 is 5.8. Add 3 to get an 8.8 point increase. 58 + 8.8 = 66.8%, about 67%.

Q31. Assertion: In a series where each term is double the previous odd term minus 1, every term remains odd. Reason: Double of an odd number is even, and even minus 1 is odd.

A. A	B. B
C. C	D. D

Answer: A. Explanation: Both statements are true and the reason explains the assertion.

Q32. **Assertion: In mirror coding A-Z, every vowel becomes a consonant. Reason: A, E, I, O, U mirror to Z, V, R, L, F.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: All mirror outputs listed are consonants, so the reason correctly explains the assertion.

Q33. **Assertion: Adding the same constant to a list of numbers preserves their order. Reason: If one number is greater before adding, it remains greater after adding the same constant.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: Both are true and the reason directly explains the assertion.

Q34. **Assertion: (a + b) - (a - b) = 2b for all numbers a and b. Reason: Subtracting a - b changes signs and cancels a.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: (a + b) - (a - b) = a + b - a + b = 2b.

Q35. **Assertion: If a drawer has socks of 4 colors, selecting 5 socks guarantees a matching pair. Reason: More objects than categories force one category to repeat.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: This is exactly the pigeonhole principle.

Q36. **Assertion: If a 31-day month starts on Tuesday, its last day is Thursday. Reason: There are 30 days after day 1, and 30 mod 7 = 2.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: Tuesday plus 2 days is Thursday.

Q37. **Assertion: In a class of 30, rank 7th from top means 24th from bottom. Reason: Bottom rank = total - top rank + 1.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: 30 - 7 + 1 = 24.

Q38. **Assertion: If 3x + 5 = 2x + 10, then x = 5. Reason: Subtracting 2x gives x + 5 = 10.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: The reason correctly solves the equation.

Q39. **Assertion: If A is mother of B and B is sister of C, then A is mother of C. Reason: Siblings share the same mother in this context.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: The relationship follows from the sibling clue.

Q40. **Assertion: A 3 x 3 x 3 cube painted on all faces has 8 small cubes with three painted faces. Reason: These are exactly the corner cubes.**

A. A	B. B
C. C	D. D

Answer: A. Explanation: A cube has 8 corners, and corner pieces have three painted faces.

Q41. **Find the next number: 4, 9, 16, 25, ?, 49.**

A. 30	B. 36
C. 40	D. 42

Answer: B. Explanation: The numbers are squares 2^2, 3^2, 4^2, 5^2, 6^2, 7^2. Missing number is 36.

Q42. **In a code, mirror each letter and then shift two letters backward. What is the code for CANDY?**

A. VXKUZ	B. WXKUZ
C. VXKUY	D. WXKUY

Answer: A. Explanation: CANDY mirrors to XZMWB. Shifting two backward gives VXKUZ.

Q43. **Starting with B, add increments 3, 4, 5, 6 to alphabet positions. What is the 5th letter?**

A. S	B. T
C. U	D. V

Answer: B. Explanation: B(2), E(5), I(9), N(14), T(20).

Q44. **Define a # b = (a x b) + (a - b). What is 8 # 3?**

A. 27	B. 28
C. 29	D. 30

Answer: C. Explanation: 8 x 3 = 24 and 8 - 3 = 5. Total = 29.

Q45. **A box has red, green and blue marbles. Red = blue = x, green = x + 10, and total = 70. How many blue marbles are there?**

A. 18	B. 19
C. 20	D. 21

Answer: C. Explanation: x + x + (x + 10) = 70, so 3x = 60 and x = 20.

Q46. If February 1, 2025 is Saturday, what day is May 10, 2025?

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

Answer: A. Explanation: The offset from Feb 1 to May 10 is 98 days, which is exactly 14 weeks, so the weekday remains Saturday.

Q47. In a contest of 50 participants, a student ranks 12th from the top. What is the rank from the bottom?

A. 39th	B. 40th
C. 41st	D. 42nd

Answer: A. Explanation: 50 - 12 + 1 = 39.

Q48. A customer buys 10 fruits: oranges cost $0.50 and apples cost $0.75. If the total is $6.50, how many apples were bought?

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

Answer: C. Explanation: Let apples be a. 0.75a + 0.50(10 - a) = 6.50. So 0.25a = 1.50 and a = 6.

Q49. R is the daughter of S, and T is the brother of S. How is T related to R?

A. Uncle	B. Father
C. Cousin	D. Nephew

Answer: A. Explanation: T is the brother of R's parent S, so T is R's uncle.

Q50. A 4 x 4 x 4 cube is painted on all faces. How many small cubes have exactly one painted face?

A. 16	B. 20
C. 24	D. 28

Answer: C. Explanation: On each face, (4 - 2)^2 = 4 cubes have one painted face. There are 6 faces, so 6 x 4 = 24.

Answer Key

Q.No.	Ans.	Q.No.	Ans.	Q.No.	Ans.	Q.No.	Ans.	Q.No.	Ans.
1	B	11	C	21	C	31	A	41	B
2	A	12	A	22	B	32	A	42	A
3	C	13	C	23	B	33	A	43	B
4	C	14	C	24	C	34	A	44	C
5	B	15	D	25	B	35	A	45	C
6	B	16	C	26	C	36	A	46	A
7	B	17	A	27	A	37	A	47	A
8	C	18	A	28	B	38	A	48	C
9	A	19	B	29	B	39	A	49	A

10	D	20	C	30	C	40	A	50	C

Teacher Review Note

This paper has been reformatted for website-ready publication. The question-number block has been kept compact, and answer explanations are provided for learning support. Diagrams and visual prompts are placed inside the question block where relevant.