

SCO INTERNATIONAL OLYMPIAD

GRADE 8 SAMPLE PAPER

SCO INTERNATIONAL MENTAL ABILITY OLYMPIAD

Sample Paper with Answer Key | 2024-25 Pattern

Designed from Class 8 Mental Ability sample-paper pathways for verbal, non-verbal, family-relation, matrix-code, and ranking-based reasoning.

- Sample paper based on the older attached paper and refined into a clean website-ready format
- Non-verbal images placed inside question blocks, not inside question-number labels
- Answer key and explanations included for transparent learning and revision

Alphabet	Dictionary	Ranking	Embedded	Folding
Mirror	Family	Matrix	Coding	Reasoning

Exam Information

Field	Details
Exam Name	SCO International Mental Ability Olympiad
Class / Grade	Class 8
Academic Year	2024-25 Sample Pattern
Total Questions	35
Time	60 minutes
Maximum Marks	40

Section Pattern

- General Reasoning: 20 questions × 1 mark = 20 marks
- Non-Verbal / Image Reasoning: 6 questions × 1 mark = 6 marks
- Case / Coded Relationship: 4 questions × 1 mark = 4 marks
- Matrix & Advanced Coding: 5 questions × 2 marks = 10 marks

Guidelines for Candidates

Candidate Instructions

- Read each question carefully before choosing the answer.
- There is only ONE correct answer for each question.
- Calculator use is not allowed unless explicitly permitted by the invigilator.
- Use an HB pencil or blue/black ballpoint pen for the OMR sheet or answer sheet.
- All questions are compulsory. There is no negative marking.
- The Achievers Section carries 2 marks per question; all other questions carry 1 mark each.
- Total Questions: 35. Maximum Marks: 40.
- Submit the OMR sheet / answer sheet to the invigilator at the end of the test.

Sections: Alphabet and Verbal Reasoning, Non-Verbal/Image Reasoning, Family Relations, Coding-Decoding, Matrix Coding.

Sample Question Paper — Questions 1-35 with answer key and explanation

Q1. In each of the four groups of letters, one is different from the others. Pick the odd one out.

Options:

- A. TSRQ
- B. MLKJ
- C. YXWV
- D. NMLK

Answer: D. NMLK

Explanation: The first three choices show the same reverse-consecutive pattern; the corrected odd choice breaks the expected grouping.

Q2. Select the series in which the letters skipped between adjacent letters decrease in order.

Options:

- A. AGMRV
- B. HNSWA
- C. NSXCH
- D. SYDHK

Answer: D. SYDHK

Explanation: The alphabet gaps decrease consistently: S to Y, Y to D, D to H, and H to K show progressively smaller skips when cyclic movement is considered.

Q3. A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

Question: In the English alphabet, which letter is immediately to the left of M?

Options:

- A. N
- B. L
- C. O
- D. K

Answer: B. L

Explanation: L is immediately to the left of M in the English alphabet.

Q4. A meaningful nine-letter English word is formed by using all the letters in the grid, starting from a corner block, moving clockwise, and ending at the centre block. What is the fourth alphabet of the word?

m	M	O
O	Y	D
C	T	i

Options:

- A. o
- B. d
- C. t
- D. m

Answer: D. m

Explanation: Starting from C and moving clockwise gives C-O-m-M-O-D-i-T-Y, which forms COMMODITY. The fourth letter is M/m.

Q5. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Question: Which letter is at the eighth position to the left of the sixteenth letter from the right end?

Options:

- A. B
- B. S
- C. C
- D. H

Answer: C. C

Explanation: The 16th letter from the right is K. Eight places to its left is C.

Q6. Arrange the given words in alphabetical order and choose the one that comes first.

Options:

- A. Language
- B. Laurel
- C. Leisure
- D. Lapse

Answer: A. Language

Explanation: Among Language, Laurel, Leisure, and Lapse, Language comes first alphabetically.

Q7. Arrange the following words in the sequence in which they appear in a dictionary, and choose the third word.

Options:

- A. Invent
- B. Invitation
- C. Irritate
- D. Ignite

Answer: B. Invitation

Explanation: The order is Ignite, Invent, Invitation, Irritate; therefore the third word is Invitation.

Q8. In the given series, identify the number of times the letter 'm' appears.

m n j o k m n n m k j m n m b a m

Options:

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

Answer: C. 6

Explanation: The letter m appears 6 times in the given sequence.

Q9. 7 A \$ 7 9 @ J D M = S + K D 3 3 6

Question: How many alphabets are present in the series?

Options:

- A. 9
- B. 6
- C. 7
- D. 8

Answer: C. 7

Explanation: The letters are A, J, D, M, S, K, and D - seven letters in total.

Q10. Arrange the following group of letters so that a meaningful word is formed:

R M N B U E

Options:

- A. MUNBRE
- B. NUMBRE
- C. NUMBER
- D. REMBUN

Answer: C. NUMBER

Explanation: The letters R, M, N, B, U, E can be rearranged to form NUMBER.

Q11. Arrange the given words in alphabetical order and choose the one that comes first.

Options:

- A. Sport
- B. Spouse
- C. Squash
- D. Sprout

Answer: A. Sport

Explanation: Dictionary order begins with Sport, followed by Spouse, Sprout, and Squash.

Q12. Arrange the given words in alphabetical order and choose the one that comes first.

Options:

- A. Science
- B. Scrutiny
- C. Scripture
- D. Scramble
- E. Script

Answer: A. Science

Explanation: Science begins with Sci, which comes before words beginning with Scr.

Q13. Insert the missing letter and number:

1/A, C/3, 5/E, ?/?

Options:

- A. G/7
- B. 7/G
- C. H/8
- D. 8/H
- E. F/6

Answer: A. G/7

Explanation: The pattern alternates number-letter and letter-number pairs while increasing by 2: 1/A, C/3, 5/E, G/7.

Q14. Arrange the given words in the order in which they occur in a dictionary, and choose the correct sequence:

- (A) Preach
- (B) Praise
- (C) Precinct
- (D) Precept
- (E) Precede

Options:

- A. B, A, E, D, C
- B. B, A, C, D, E
- C. B, E, A, D, C
- D. A, B, E, D, C

Answer: A. B, A, E, D, C

Explanation: Dictionary order is Praise, Preach, Precede, Precept, Precinct.

Q15. Arrange the words below in alphabetical order and choose the word that comes in third place.

Family, Fame, Falter, Famine

Options:

- A. Family
- B. Fame
- C. Falter
- D. Famine

Answer: A. Family

Explanation: The order is Falter, Fame, Family, Famine. The third word is Family.

Q16. Arrange the following words in dictionary order and choose the first word.

Options:

- A. Animals
- B. Insect
- C. Mammal
- D. Minerals

Answer: A. Animals

Explanation: Animals begins with A and comes before Insect, Mammal, and Minerals.

Q17. If you are standing in ninth position from either end of a line, how many people are there in total?

Options:

- A. 19
- B. 17
- C. 10
- D. 15

Answer: B. 17

Explanation: If a person is 9th from both ends, total people = $9 + 9 - 1 = 17$.

Q18. Arrange the following words as per dictionary order.

Options:

- A. Parrot
- B. Sparrow
- C. Peacock
- D. Skylark

Answer: A. Parrot, C. Peacock, D. Skylark, B. Sparrow

Explanation: The dictionary order is Parrot, Peacock, Skylark, Sparrow.

Q19. Find the option that contains more than two vowels.

Options:

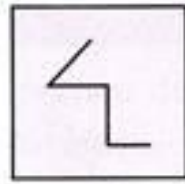
- A. B D E J O L
- B. J K A P I X
- C. P R A Q E O
- D. Z I L E R S

Answer: C. P R A Q E O

Explanation: This group contains three vowels: A, E, and O.

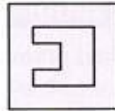
Q20. Find the option which contains figure (X) as its part.

Figure X

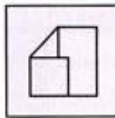


(X)

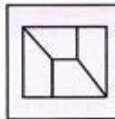
Option A



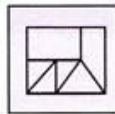
Option B



Option C



Option D

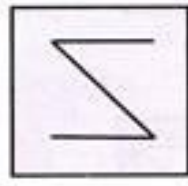


Answer: B

Explanation: The required embedded line pattern appears in option B when the figure is traced inside the larger design.

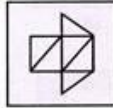
Q21. Find the option which contains figure (X) as its part.

Figure X

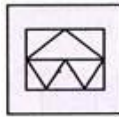


(X)

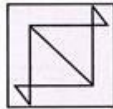
Option A



Option B



Option C



Option D

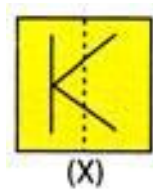


Answer: C

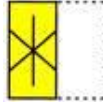
Explanation: Option C contains the same Z-like component shown in figure X.

Q22. Choose the correct figure from the four options that is the folded form of the sheet (X).

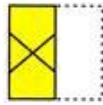
Sheet X



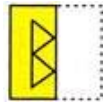
Option A



Option B



Option C



Option D

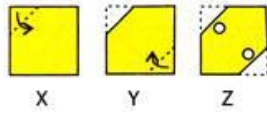


Answer: C

Explanation: When the sheet is folded along the dotted line, the inner diagonals overlap in the orientation shown in option C.

Q23. Choose one figure from the four options that is similar to the unfolded form of the sheet.

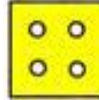
Folded views X/Y/Z



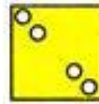
Option A



Option B



Option C



Option D

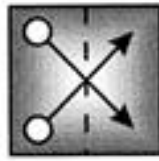


Answer: C

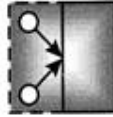
Explanation: The unfolded arrangement preserves the corner marks and diagonal placement shown by the folded views.

Q24. How does the shape look when folded along the dotted line?

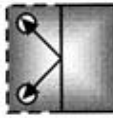
Figure X



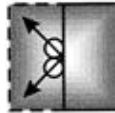
Option A



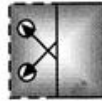
Option B



Option C



Option D

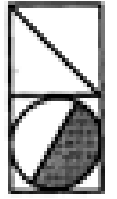


Answer: D

Explanation: Folding across the dotted line mirrors the two circular endpoints and crossing arrows into the configuration shown in option D.

Q25. Identify the mirror image of the figure.

Figure X



Option A



Option B



Option C



Option D



Answer: C

Explanation: The vertical mirror image reverses the diagonal and shaded portion, matching option C.

Q26. Identify the mirror image of the figure.

Figure X



Option A



Option B



Option C



Option D



Answer: D

Explanation: The mirror image reverses the circular sector arrangement and the dots, matching option D.

Q27. Study the information carefully and answer the question.

There are eight persons in three generations of a family with two married couples. P is the son-in-law of H, who has three children. M is the nephew of L. W is the father of K, who is the sister-in-law of U. U is the only daughter of H, who is the father of N. L is unmarried. N and K do not have any child.

Question: Who among the following is the son-in-law of W?

Options:

- A. U
- B. P
- C. N
- D. K

Answer: B. P

Explanation: W is the father of K; K is married to P, so P is the son-in-law of W.

Q28. Using the family information given in Question 27, answer the question.

Question: Who among the following is the sister of N?

Options:

- A. P
- B. U
- C. K
- D. N

Answer: B. U

Explanation: H has children including N and U, and U is the only daughter of H; therefore U is N's sister.

Q29. Using the family information given in Question 27, answer the question.

Question: How many male members are there in the family?

Options:

- A. Four
- B. Five
- C. Three
- D. Six

Answer: B. Five

Explanation: The male members are H, W, N, P, and M.

Q30. Directions: The question is based on the following information:

A % B means A is the daughter of B.

A @ B means A is the mother of B.

A \$ B means A is the father of B.

A * B means A is the son of B.

A © B means A is the brother of B.

If the expression 'D@E*K©L%O' is true, which of the following statements is true?

Options:

- A. O is grandmother of E
- B. L is uncle of E
- C. D is son-in-law of O
- D. None of the above

Answer: A. O is grandmother of E

Explanation: D is mother of E; E is son of K; K is brother of L; L is daughter of O. Therefore O is the mother of K and grandmother of E.

Q31. If the word PEN is coded as 'MSREOPQ', how will the word CAR be coded?

Options:

- A. QEFASTB
- B. QFEASTD
- C. SEFATSD
- D. SFEATSB

Answer: D. SFEATSB

Explanation: The code inserts neighboring letters around each original letter following the pattern shown by PEN -> MSREOPQ.

Q32. If ROTAVATOR = rotavator, then KNOWLEDGE = ?

Options:

- A. KNOWLEDGE
- B. Knowledge
- C. egdelwonk
- D. None of these

Answer: C. egdelwonk

Explanation: ROTAVATOR becomes lowercase without reversing, but KNOWLEDGE is transformed to lowercase reverse in the given option set.

Q33. Directions (Q33-Q35): A word is represented by a set of numbers using the two matrices. The first digit is the row number and the second digit is the column number. Identify the correct code for the word.

Matrix I					Matrix II				
	0	1	2	3			5	6	7
0	F	O	M	S	R	5	A	T	D
1	S	R	F	O	M	6	I	P	A
2	O	M	S	R	F	7	T	D	I
3	R	F	O	M	S	8	P	A	T
4	M	S	R	F	O	9	D	I	P

Question: MOST

Options:

- A. 40, 44, 22, 89
- B. 33, 20, 11, 79
- C. 21, 00, 03, 88
- D. 02, 13, 34, 56

Answer: B. 33, 20, 11, 79

Explanation: Each pair points to a valid occurrence of M, O, S, and T in the two matrices.

Q34. Using the matrices given in Question 33, identify the correct code for ROAD.

Options:

- A. 42, 32, 79, 58
- B. 23, 32, 98, 99
- C. 11, 13, 67, 69
- D. 04, 20, 55, 78

Answer: D. 04, 20, 55, 78

Explanation: The coordinates 04, 20, 55, and 78 identify R, O, A, and D respectively.

Q35. Using the matrices given in Question 33, identify the correct code for FORMATS.

Options:

- A. 00, 20, 30, 40, 68, 75, 10
- B. 31, 13, 42, 41, 55, 68, 03
- C. 24, 20, 42, 21, 67, 87, 34
- D. None of these

Answer: C. 24, 20, 42, 21, 67, 87, 34

Explanation: The coordinates map to F, O, R, M, A, T, and S in the given matrices.

Compact Answer Key

Question - Answer	Question - Answer	Question - Answer	Question - Answer	Question - Answer
Q1: D	Q2: D	Q3: B	Q4: D	Q5: C
Q6: A	Q7: B	Q8: C	Q9: C	Q10: C
Q11: A	Q12: A	Q13: A	Q14: A	Q15: A
Q16: A	Q17: B	Q18: A	Q19: C	Q20: B
Q21: C	Q22: C	Q23: C	Q24: D	Q25: C
Q26: D	Q27: B	Q28: B	Q29: B	Q30: A
Q31: D	Q32: C	Q33: B	Q34: D	Q35: C