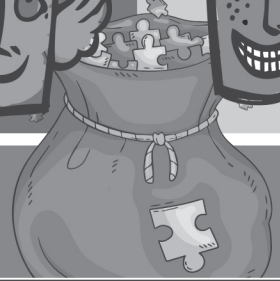# Mastering Aptitude and REASONING

Teacher's Help Book (3)

Mastering Aptitude and REASONING

3

1 > CODING-DECODING

1. In the given coding pattern,
   E = 5, G = 7

   So, substitute their codes to form the word EGG.

2. A = 1, B = 2, etc., so substitute for D = 4, E = 5, A = 1, F = 6.
   The code is 4516

3. Z = 1, Y = 2, X = 3, etc., it is reverse coding. Substitute for R = 9, U = 6, S = 8, T = 7. The code is 9687.

4. Each letter is replaced by the next letter in the alphabet.
   H ⟶ I, A ⟶ B, P ⟶ Q, P ⟶ Q, Y ⟶ Z

   In the given pattern,
   S ⟶ T, A ⟶ B, D ⟶ E

5. In the given coding pattern, letters are shifted forward by 1.
   M ⟶ N, O ⟶ P, N ⟶ O, D ⟶ E, A ⟶ B, Y ⟶ Z

   According to the given pattern,
   F ⟶ G, R ⟶ S, I ⟶ J, D ⟶ E, A ⟶ B, Y ⟶ Z

6. The code for 'HIM' is 567.

7. The code for 'MATS' is 7298.

8. The code for 'HATE' is 5294.

9. The code for 'TIME' is 9674.

10. The code for 'THEME' is 95474.

11. Eyes are used to see and Eyes are called fingers.

12. W pedal the bicycle and bicycle is called car.

13. Drum is played with sticks and Drum is called Violin.

14. Chef will cook the food and chef means shop.

15. Bus is used for public transport and Bus is called truck.

16. Banana is the yellow fruit and banana is called orange.

17. Dog barks and dog is called rabbit.

18. Chair is used to sit and chair is called table.

19. Saw is used to cut wood and Saw is called pliers.

20. ◇ is a rhombus and ◇ is called △.

21. The colour of the sky is blue and blue is called red.

22. According to the given patter,
$$1 \longrightarrow 3, 3 \longrightarrow 5, 5 \longrightarrow 7, 7 \longrightarrow 9$$
$$\Rightarrow \quad 3 + 5 \longrightarrow 5 + 7 \longrightarrow 12$$

23. According to the given pattern,
$$1 \longrightarrow 3, 2 \longrightarrow 4, 3 \longrightarrow 5$$
$$\Rightarrow \quad 2 + 1 \longrightarrow 4 + 3 \longrightarrow 7$$

24. $4 + 2 = 6$

25. $10 - 1 = 9$

⟨ 2 ⟩ WHAT COMES NEXT?

1. The sequence of pattern is ◯.

2. Arrows rotate clockswise with one arrow increasing in each pattern.

3. Additional diagonal lines are added in each step.

4. Number of arcs increases by one in each step.

5. Number of lines increase in each step.

6. Number of lines increase in each step.

7. One dot move to the horizontal line in each step.

8. Horizontal dots alternate between upper row and bottom row.

9. Arrow alternates between vertical and horizontal directions.

10. The stack increases by one layer in each step.

11. The bottom number in the circle is the product of the two smaller numbers.
$4 \times 7 = 28$ and $6 \times 8 = 48$
So, $5 \times 9 = 45$

12. The total of numbers on a straight line of the triangle is equal to 10
$1 + 6 + 3 = 3 + 2 + 5 = 1 + 4 + 5 = 10$

13. The numbers are consecutive perfect squares in descending order.
$81 = 9^2; 64 = 8^2; 49 = 7^2; 36 = 6^2$
So, $25 = 5^2$

14. The numbers are the sum of opposite pairs in the circle.
13 + 14 = 27 ⟶ 22 + 5 = 27 ⟶ 11 + 16 = 27
So, 17 + 10 = 27

15. The letter increases alphabetically (A ⟶ B ⟶ C ⟶ D ⟶ E), and the number increases by 10 (10 ⟶ 20 ⟶ 30 ⟶ 40 ⟶ 50).

16. The letters decrease sequentially (Z ⟶ Y ⟶ X ⟶ W), and the numbers increase by 1 (6 ⟶ 7 ⟶ 8 ⟶ 9 ⟶ 10).

17. The letters are arranged from the top and bottom sequence (AZ ⟶ BY ⟶ CX ⟶ DW ⟶ EV) and the numbers increase by 1.

18. The letters move sequentially in pairs of 2, and the numbers increase by 1.

19. The letters progress alphabetically in pairs (CD ⟶ EF ⟶ GH ⟶ IJ ⟶ KL) and numbers increase by 3 (3 ⟶ 6 ⟶ 9 ⟶ 12 ⟶ 15).

20. The letters increase sequentially in pairs (AA ⟶ BB ⟶ CC ⟶ DD ⟶ EE) and numbers increase by 1 (1 ⟶ 2 ⟶ 3 ⟶ 4 ⟶ 5).

21. The letters decrease alphabetically (Z ⟶ Y ⟶ X ⟶ W ⟶ V) and the numbers increase by 2.

22. The letters progress alphabetically (G ⟶ H ⟶ I ⟶ J ⟶ K) and numbers increase by 3.

23. The letters progress in reverse order (T ⟶ S ⟶ R ⟶ Q ⟶ P) and numbers increase by 5.

24. The letters progress alphabetically (Z ⟶ Y ⟶ X ⟶ W ⟶ V) and numbers increase by 10 (10 ⟶ 20 ⟶ 30 ⟶ 40 ⟶ 50).

25. The letters progress in reverse order (Q ⟶ P ⟶ O ⟶ N ⟶ M) and numbers increase by 11 (11 ⟶ 22 ⟶ 33 ⟶ 44 ⟶ 55).

26. The letters progress in reverse order (F ⟶ G ⟶ H ⟶ I ⟶ J) and numbers increase by 2 (1 ⟶ 3 ⟶ 5 ⟶ 7 ⟶ 9).

27. The letters progress sequentially (M ⟶ N ⟶ O ⟶ P ⟶ Q) and numbers increase by 1 (1 ⟶ 2 ⟶ 3 ⟶ 4 ⟶ 5).

28. The first letters move forward sequentially and the second letters are in reverse order.

29. The first and second letter skips one letter in every pattern.

30. The first and third letters follow a pattern of progression by 1 position and the second letters progress sequentially.

31. The letters skip one alphabet sequentially (B ⟶ D ⟶ F ⟶ H ⟶ J)

32. The first and second letters progress sequentially in forward manner (AB ⟶ BC ⟶ CD ⟶ DE ⟶ EF) and the last letters are in reverse order (Z ⟶ Y ⟶ X ⟶ W ⟶ V).

33. The blue squares move clockwise in each step. The blue pattern shifts position within the grid.

34. The number of dots are decreasing in number.

35. The number of leaves are decreasing in number.

3 RANKING TEST

1. Ana is shorter than Tom but taller than Jake. Tom is shorter than Lucy, making Jake the shortest.

2. Ben is older than Dan and Fred but younger than Charlie. Therefore, Charlie is the oldest.

3. Raju is fifth from both left and right, so the total number of boys is 9.

4. Mrs. Sharma is fourth from the right and third from the left.
   So, total women are [(4+3) − 1] = 6

5. There are six ladies sitting to the right of Mrs. Gupta. Thus, Mrs. Gupta's position is 7th.

6. Tina is second from the left in a row facing the camera. Total girls standing to her left = 1.

7. There are 16 letters to the left of Q.

8. To the right of 'L' in the alphabet series: 26 − 12 = 14.

9. If 'E' is removed, the letter before F is D.

10. There are 6 letters to the right of T.

11. Tree P is in the middle.

12. The broken cup's position from the right is 5th.

13. Out of eight boys, Sohan is third from the left.
    His position from the right is 8 − 3 + 1 = 6th position.

14. Ria is 8th from the left in a line of 17 girls. Position from the right = 17 − 8 + 1 = 10. Her position is 10th.

15. Megha ranks 19th in a class of 68 students. Rank from the last = 68 − 19 + 1 = 50.

16. George's seat is C10. Alana's seat is 5 seats to the left: 10 − 5 = 5. The answer is C5.

17. Ronny's seat is 2 seats to the right of George's (C10): 10 + 2 = 12. The answer is C12.

18. Abel's seat is 3 seats left of Ronny's (C12), but one row behind. The answer is D9.

19. Frank's seat is the last seat in row A. In a 15-seat row, the last seat is A-15. The answer is A15.

20. Mathew's seat is 7 seats to the left of Abel's seat D9: 9 – 7 = 2. The answer is D2.

21. Mark's seat is the same as Mathew's D2, but two rows is front. Row D becomes B, so the seat is B2. The answer is B2.

22. Peter's seat is four places to the right of Mathew's D2, making it D6. It is five rows behind, so row D becomes I, and the seat is I6.

23. Paul's seat is the same as Peter's J6, but one row behind. Row J becomes I, so the seat is J6.

24. Sam's seat is the first seat in row F. The first seat is F1. The answer is F1.

25. Victor's seat is 7 seats to the right of Sam's F1. 1 + 7 = 8. The seat is F8.

4 ANALOGY AND CLASSIFICATION

1. The baby of the cat is kitten. In the same way, the baby of the dog is puppy.

2. The socks are worn on feet. Similarly, the gloves are worn on hands.

3. Shoes are worn when we run. Similarly, we sleep on bed.

4. We get light from bulb. Similarly, we get water from tap.

5. Brush is used for painting. Similarly, broom is used for sweeping.

6. Book is for reading. Similarly, television is for watching.

7. The first pair shows a figure divided into five parts and a pentagon. Similarly, second pair shows a figure divided into six parts and a hexagon.

8. The figures in the two pairs are rotating in the clockwise direction.

9. In the first and the second pair, the letters are in reverse order.

10. In the first pair, the letters are in reverse order and in sequence from the starting. The second pair follows the same rule.

11. In the first pair, the first letter skips one letter and the second and third letter progress in sequential manner.

12. Each number sequence follows powers of integers ($3^3 = 27$; $4^3 = 64$).

13. In the first pair, the numbers are changing their positions.

14. In the first pair, the numbers are increasing by 10 and the letters are increasing sequentially.

15. Each term adds 1 to the number and progresses the alphabets.

16. All the objects are used for cutting, except the stick.

17. All the objects are used for studying, except, the mirror.

18. Banana, Apple and Orange are the fruits, except the potato, which is a vegetable.

19. Lion, Giraffe and Tiger are wild animals, whereas dog is a pet animal.

20. All items are storage devices, except, the pen, which is a writing tool.

21. Television, Refrigerator and Fan are electrical appliances, whereas, clock is the odd one out.

22. River, Pond and Lake are natural sources of water, whereas, pool is a man-made source of water.

23. All numbers, i.e., 27, 125, 343, are perfect squares, except 132.

24. All numbers are palindromes i.e., 888, 646, 414, except 513.

25. Z1, X3 and V5 have odd numbers with them, whereas, R18 has an even number.

26. All are alpha-numeric numbers, but Z26, V22 and X24 have even numbers and Y27 has an odd number.

27. **101**P, 102Q and 104S have letters in sequence whereas 103Z is the odd one out.

28. Y40, X35 and Z45 have numbers that are multiples of 5.

29. MMN, CCD and FFG have letters in sequence, whereas, VVX do not have letters in sequence.

30. YSS, SYS and SSY have the same letters whereas, SXS is different among the four options.

5 ALPHABET TEST

1. The 10th letter of the alphabet is J.

2. The 25th letter of the alphabet is Y.

3. The letter C occurs once in

4. The letter T occurs twice in POTATOES and once in SILENT.

5. If the alphabets are written backwards, the 15th letter is L.

6. The letter A occurs once in FLAG and twice in APPEARING.

7. The correct sequence is SPADE, SPARK, SPEND, SPOIL.

8. The correct sequence is HAPPEN, HAPPY, HOPE and HORROR.

9. The correct sequence is CAMEL, CAST, CATTLE and COAT.

10. The correct sequence is ANKLE, UMBRELLA, UNCLE and UNWELL.

11. The correct sequence is GAME, GATE, GOAT and GRAND.

12. The correct sequence is SOMEBODY, SOMEDAY, SOMEONE and SOMETIME.

13. The correct answer is EASE.

14. The correct answer is HALE.

15. The correct answer is SAFETY.

16. The correct answer is DAME.

17. The correct answer is FAG.

18. The correct answer is WAGON.

19. The correct answer is DAILY.

20. The correct answer is ANGLE.

21. The correct answer is TROT.

22. The correct answer is DRAG.

23. The correct answer is NEAR.

24. The correct answer is CHATS.

25. The correct answer is MESS.

6 MIRROR IMAGES

1. The correct mirror image is ⬅•• .

2. The correct mirror image is ♠ .

3. The correct mirror image is
×	A
+	−
.

4. The correct mirror image is ⴷ .

5. The correct mirror image is Ⱶ .

6. The correct mirror image is ɛɛ .

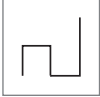7. The correct mirror image is PP .

8. The correct mirror image is 🙂 .

9. The correct mirror image is .

10. The correct mirror image is ЄᄅI .

11. The correct mirror image is .

12. The correct mirror image is .

13. The correct mirror image is .

14. The correct mirror image is ИUƧ .

15. The correct mirror image is ƆOOꓭ .

16. The correct mirror image is .

17. The correct mirror image is .

18. The correct mirror image is ꓘⵏⵏ .

⬡ 7 EMBEDDED FIGURES

1. can be seen in the given figure.

2. can be seen in the given figure.
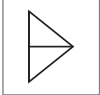
3. | ⌐ | can be seen in the given figure.
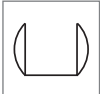
4. | ⊢ | can be seen in the given figure.

5. | ◊ | can be seen in the given figure.

6. | ⊓⌐ | can be seen in the given figure.

7. | ▢) | can be seen in the given figure.

8. | ▷ | can be seen in the given figure.

9. | ◿ | can be seen in the given figure.
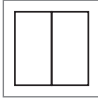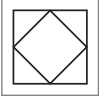
10. | ⌒ | can be seen in the given figure.

11. | ◸ | can be seen in the given figure.

12. | ∨ | can be seen in the given figure.

13. | (⊔) | can be seen in the given figure.

14. | ╱ | can be seen in the given figure.

15. can be seen in the given figure.

16. is the correct figure.   **17.** is the correct figure.

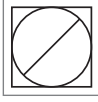**18.** is the correct figure.   **19.** is the correct figure.

20. is the correct figure.   **21.** is the correct figure.

22. is the correct figure.   **23.** is the correct figure.

24. is the correct figure.   **25.** is the correct figure.

26. is the correct figure.

8 PUZZLES

	Rabbit	Dog	Fish
Akash	✓	✗	✗
Bhavesh	✗	✓	✗
Chintu	✗	✗	✓

1. Akahs has the rabbit.
2. Bhavesh has the dog.
3. Chintu has the fish.

	A	B	C	D	E
Tom	✓	✗	✗	✗	✗
Jack	✗	✗	✗	✗	✓
David	✗	✗	✗	✓	✗

Jim	✗	✗	✓	✗	✗
Betty	✗	✓	✗	✗	✗

4. Tom is in section A.

5. Jim is in section C.

6. Jack is in section E.

7. Betty is in section B.

8. David is in section D.

	Soccer	Basketball	Tennis	Swimming
Esha	✗	✗	✗	✓
Neeta	✗	✓	✗	✗
Leena	✗	✗	✓	✗
Aman	✓	✗	✗	✗

9. Aman loves soccer.

10. Neeta loves basketball.

11. Leena loves tennis.

12. Esha loves swimming.
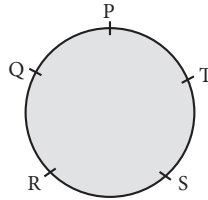
13. R is sitting to the left of S.

14. Q is sitting to the right of P.

15. S is sitting to the right of R.

16. P is sitting to the left of Q.

17. T is sitting between P and S.

18. Q is sitting between R and P.

19. S is sitting between T and R.

20. R is sitting between Q and S.

21. Father drives the white car.

22. Son drives the red car.

23. Mother drives the black car.