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Non-verbal reasoning tests consist of those tests in which words, figures, digits and letters are seldom used. The instructions or directions given before the questions need careful understanding. In these tests, your power of logical reasoning, speed of thinking and the ability to differentiate or find correlations between given objects/figures/patterns will be tested. Non-verbal test make use of diagrams, figures or designs to evaluate your mental ability, speed of reasoning and differentiation, etc., rather than academic knowledge. Most non-verbal reasoning tests can be classified under the following categories:

1. Completion of series
2. Classification of figures or spotting the odd one out from a set of figures.
3. Classification of given figures/designs/patterns into identical groups
4. Pattern completion and pattern comparison
5. Spotting hidden pattern in a given design
6. Problems related to figure rotation
7. Problems related to paper cutting and paper folding.

In addition, there are questions to judge your ability to identity various factors in a given set of figures, designs of diagrams.

These outlines give illustrations of the various types of non-verbal reasoning tests. You will also find guidelines for attempting such non-verbal reasoning tests in the shortest possible time, along with numerous practice tests. These will fully familiarise you with the type of questions you are likely to face in various examinations.

**CATEGORY 1- COMPLETION OF SERIES (SEQUENCE/ORDER)**
The word sequence is defined as anything that follows to specific pattern or as continuation of a given pattern or sequence. In simple terms, after observing the trend of pattern involved in three or four items (figures/designs), you have to decide which will be the next figure to complete the given series.

Illustrations

Directions: In the following questions, there are three blocks of figures marked A, B and C, each having three designs. One column in the block is blank with a question mark (?) in it. Following it there are answer choices, marked 1, 2, 3, 4, 5, and 6. Select an appropriate figure from the answer choices provided to replace the question mark and continue the pattern.

1. Select the correct figure from the six numbered figures to replace the question marks (?)

Answer Choice

1

2

3
ANSWER: 4  Number of circles increases by one each time

2. Select the correct figure from six numbered figures to replace the question mark (?)

A

B

C

Answer Choice

1  2  3

4  5  6

ANSWER: 2  There are three types of small squares in each of the large squares. One set has shaded squares. The second set has horizontal lines in each
small square. In the third set, the squares are blank. To keep the pattern followed in other squares, answer figure 2 will replace the question mark.

3. Select the correct figure from the six numbered figures to replace the question mark (?).

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*Answer Choice*

1.  
2.  
3.  
4.  
5.  
6.  

*ANSWER:* 1  
In each row, there are three different figures. Every row has one black-shaded figure A, one blank figure and one figure shaded by horizontal lines. One type of figure occurs only once in a row. Keeping this pattern, the question mark (?) will be replaced by the answer figure 1.
4. Which one of the numbered figures will go in place of the question mark (?)

Each row of figures starts with one circle less than the previous row. Also, across a row, the number of circles decreases by one. In each row, the numbers of circles are reducing, e.g.

Row A: 9 → 6 → 3; Row B: 6 → 4 → 2;
Row C: 3 → 2 → 1

ANSWER: 2

5. Select the numbered figure that will replace the question mark (?) in figure (D) to complete the given pattern.
In each figure, the number of small circles varies between one and two alternately. The small circles also move in an anticlockwise direction. The shaded area moves in the clockwise direction. The answer figure 5 follows the same pattern and will come in place of the question mark.

6. Select the numbered figure that will replace the question mark (?) and continue the pattern.

ANSWER: 3 The figure rotates 90° anticlockwise. A small circle alternates with a small square at the same relative position.
7. Select the number figure that will replace the question mark (?) and continue the series.

\[
\begin{array}{c|c|c|c}
\bullet & \Delta & \circ & \square \\
A & B & C & ? \\
\end{array}
\]

\textit{Answer Choice}

\[
\begin{array}{c|c|c|c}
\Delta & \circ & \bullet & \Delta \\
1 & 2 & 3 & 4 \\
\end{array}
\]

\textbf{Answer:} 3 The pattern is rotating $45^0$ anticlockwise to produce the next diagram. Triangles and circles alternate between black and white.

8. Select the numbered figure that will continue the series.

\[
\begin{array}{c|c|c|c}
\text{A} & \text{B} & \text{C} & \square \\
1 & 2 & 3 & ? \\
\end{array}
\]

\textit{Answer Choice}

\[
\begin{array}{c|c|c|c|c}
\text{A} & \text{B} & \text{C} & \text{D} & \text{E} \\
1 & 2 & 3 & 4 & 5 \\
\end{array}
\]
**ANSWER:** 5 The box is rotated $90^\circ$ anticlockwise to produce the next figure. The shaded (lined) region in the box varies between left, right, down and up positions.

![Box and figures](image)

9. Select the numbered figure that will complete the sequence.

*Answer Choice*
**Answer:** 1 The circle in the square becomes a square in a circle, each of the two shapes retaining their initial colours. The double squares, however, change colour, and the single square changes both position and colour.

10. Select the numbered figure that will come in lettered figure D to continue the sequence.

![](image)

**Answer choice**

1. 2. 3. 4. 4

**Answer:** 4 The centre is alternately black and white. The black sector in B is opposite to that in A, so the black sector in D must be opposite to that in C.

**Practice Questions**

*Directions:* Complete the series

1. **Problem Figures**

   ![](image)
# NON-VERBAL REASONING TESTS

## Answer Figures

<table>
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## Problem Figures

2. **Problem Figures**

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## Answer Figures

3. **Problem Figures**

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4. **Problem Figures**

   ![Problem Figures](image)

   **Answer Figures**

   ![Answer Figures](image)

5. **Problem Figures**

   ![Problem Figures](image)

   **Answer Figures**

   ![Answer Figures](image)

6. **Problem Figures**

   ![Problem Figures](image)

   **Answer Figures**

   ![Answer Figures](image)
7. **Problem Figures**

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10. **Problem Figures**

![Problem Figures Diagram]

**Answer Figures**

![Answer Figures Diagram]

11. **Problem Figures**

![Problem Figures Diagram]

**Answer Figures**

![Answer Figures Diagram]

12. **Problem Figures**

![Problem Figures Diagram]
Answer Figures

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15. **Problem Figures**

Answer Figures

16. **Problem Figures**

Answer Figures

17. **Problem Figures**
Answer Figures

| A | B | C | D | E |

18. Problem Figures

Answer Figures

| A | B | C | D | E |

19. Problem Figures

Answer Figures

| A | B | C | D | E |

20. Problem Figures

Answer Figures

| A | B | C | D | E |
Answer Figures

A B C D E

21. Problem Figures

Answer Figures

A B C D E

22. Problem Figures

Answer Figures

A B C D E

23. Problem Figures
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24. **Problem Figures**

| + | x | - | x | ? |

**Answer Figures**

| A | B | C | D | E |

25. **Problem Figures**

|  |  |  |  | ? |

**Answer Figures**

| A | B | C | D | E |

**Answer and Explanation**

1. (e) Small unshaded ball alternately goes down and up in the left-hand side. The back dots decrease and the dashes (-) increase by one each time while moving up and down. Also the pointer becomes arrowed and
curved alternately. Next figure should have no black dot, it should have 5 small dashes (-) and a small unshaded ball above the pointer to complete the series.

2. (d) Intersecting arrow changes direction and the small ball moves anticlockwise. The plus sign (+) moves, turn by turn, to the left hand side (bottom) and the right hand side (upper) corner.

3. (e) Intersecting lines change direction alternately. The line having a ball-head turns up and down alternately while is tail is constantly in upward direction.

4. (e) The small ball and the dash (-) rotate clockwise.

5. (d) The lefthand side arrow turns up and down while the righthand side arrow turns at 45° anticlockwise.

6. (e) The small ball (o) changes from lefthand side to righthand side. A small line is added each time to bigger lines.

7. (c) The arrow intersects while turning counterclockwise. The plus (+) and the multiplication sign (×) appear alternately.

8. (e) The black dots reduce from four to two and again increase from two to four. The arrow at the bottom moves from right to left while changing direction of the pointer from down to up and vice versa.

9. (e) The black dot travels from left to righthand side above the line and then starts from right to left below the line. Similarly the small square moves opposite the black dot.

10. (c) The black dot rotates clockwise while the arrow changes its pointer outward and inward.

11. (e) When arrow intersects, its wings open up. Dot and dash change positions alternately.

12. (c) Once a horizontal line is added and once a vertical line is added.

13. (d) The black dot outside moves in anticlockwise direction.
14. (e) The arrow moves towards right-hand side and then returns from left to righthand side again. The black dot is moving from right to left hand side and then again returns to righthand side.

15. (e) Two times the arrow goes in and two times comes out on the top and a small line is added after the second turn.

16. (c) A small line is added to the vertical line.

17. (c) Horizontal lines increase from one to three and then repeat from 1 onwards again. The arrows change direction alternately.

18. (e) The arrowed head changes direction (left to right). Once the number of small balls (o) increase and then the number of black dots increases while changing positions.

19. (e) The small hand turns at 45° while the bigger hand turns 90°, both in clockwise direction.

20. (b) The small hand turns at 90° in clockwise direction, while the bigger hand at 90° in anticlockwise direction.

21. (e) The pattern is rotated at 45° clockwise to produce the next pattern.

22. (e) The pattern is moving counter clockwise.

23. (e) The angle turns left to right alternately. The inside triangle and circle get shaded one by one. The black dot outside moves around counter-clockwise. Next figure should have a small unshaped triangle to repeat the sequence.

24. (e) The pattern changes direction alternately. The plus sign (+) and the multiplication sign (×) appear alternately.

25. (c) The movement of the small circle around the triangle is accompanied by the alternate appearance of the dot inside the circle and the movement of the arrow inside the triangle. The alternate change in the direction of the pin is also an indicator.
In non-verbal classification (odd man out) questions, you will be given a group of five or six items (diagrams). All but one of these will be similar in some way or the other. You will be asked to choose the one that is not similar to the other figures given in the question.

Illustrations

1. Which one of the five following figures is least like (or different from) the other figures?

   ![Figures A, B, C, D, E]

   **ANSWER:** D The other figures are all made with straight lines. A circle is formed from curved lines and is therefore odd or different from the rest.

2. Which of the following five designs is least like the other four?

   ![Figures A, B, C, D, E]

   **ANSWER:** B Each design has two figures one within the other. The small figure inside is same as the outside figure. This is true for all designs except B.

3. Which of the following figures is different from the other?

   ![Figures A, B, C, D, E]

   **ANSWER:**
**ANSWER:** B All the others represent mathematical comparisons whereas figure B is a sign of mathematical operation.

4. Which among the following five figures is least like the other four or different in some way from the others?

![Figures 1 to 5](image)

**ANSWER:** 2 All the others have an odd number of squares, figure (2) has an even number.

5. Which one of the following figures is least like the others?

![Figures 1 to 5](image)

**ANSWER:** 1 Figure 1 is without shading, hence odd.

6. Select the figure which is different from others.

![Figures 1 to 5](image)

**Answer:** 5 The double bar of the triangle turns clockwise and the other elements turn anticlockwise. In figure 5 the double bar is on the wrong side, however, the position of the other elements are correct.
7. Which figure among the following is the odd one out?

7. Which figure among the following is the odd one out?

![Figure 1](image1.png)  
![Figure 2](image2.png)  
![Figure 3](image3.png)  
![Figure 4](image4.png)  
![Figure 5](image5.png)

**ANSWER:** 4

Figures 1 and 3, and 2 and 5, are pairs in which the segments turn 90° each time and the elements (items) change colour (become shaded and blank).

8. Select the figure that has different characteristics or is different from the rest of the figures.

![Figure 6](image6.png)  
![Figure 7](image7.png)  
![Figure 8](image8.png)  
![Figure 9](image9.png)  

**ANSWER:** 5

The figure turns 90° each time, and the square and the circle change places. Figure 5 does not follow the sequence.

9. Select the figure that is different from that rest of the figures.

![Figure 10](image10.png)  
![Figure 11](image11.png)  
![Figure 12](image12.png)  

**ANSWER:** D

In other figures, the heads of the pin are in the same direction whereas in figure D they are in opposite directions.

10. Which of the following five figures does not belong in the series?

![Figure 13](image13.png)  
![Figure 14](image14.png)  
![Figure 15](image15.png)  

**ANSWER:** B

In other figures, the heads of the pin are in the same direction whereas in figure D they are in opposite directions.
ANSWER: D  In the other figures, the sequence of letters is in alphabetical order starting at the top and going clockwise.

11. From the following five figures, identify the figure which is most different from the others.

![Figures](image)

ANSWER: E  All the other figures contain smaller versions of themselves.

Practice Questions

Directions: Four of the five figures marked A, B, C, D, and E in some way or the other and one is different from the rest. You have to choose the figure which is different (odd).

1.

![Figures](image)

2.

![Figures](image)

3.

![Figures](image)
22. 

![Diagram with options A, B, C, D, E]

**Answer Key (Classification)**

1. (d) The small rectangle is in the middle whereas in others it is at the corner.

2. (d) The ball is not in correct position. The main figure is moving by 45° at each turn with the ball in the lower tip. Hence in (d) the figure should be placed horizontally with the ball in the right tip.

3. (a)

4. (d)

5. (b) The arc is rotating in anticlockwise direction with three balls on the right-hand side corner of the arc. Hence in (b) the balls should be at the lower corner of the arc.

6. (c)

7. (c) The edges of the internal cross are not parallel to outer lines of the square.

8. (e) The direction of the arrow should be anticlockwise, whereas in the last figure (e) it is clockwise.

9. (e) The direction of the arrowhead is wrong. It should be in clockwise direction as in others.

10. (d)

11. (e)

12. (d) In the other figures the small lines are interesting the square whereas in (d) they are inside square.

13. (d) In the other figures the triangle with the dot is pointing towards the curved side of the outer figure.

14. (b) The arrowhead on the angular pointer is opposite to the direction of the arrowheads on the other pointers.

15. (d)

16. (b) In the figure there are six lines outside the square whereas in (b) there are seven lines.
17. (d) In the other figures the direction is shown anticlockwise.
18. (a)
19. (d) The dot inside the figure is moving clockwise. Therefore, in (d) it should be at the bottom.
20. (d) Number of small lines is increasing by one each time. In (d) there should be four lines.
21. (d) The direction of the outer shell is wrong.
22. (a) In the other figures the arrow is intersecting the longer side of the rectangle.

ANALOGICAL NON-VERBAL REASONING

Analogy is defined as correspondence in some respects between things otherwise dissimilar. Analogy reasoning refers to the process of reasoning from parallel cases.

Illustrations
1. Which of the following five-numbered figure makes the best comparison?

\[
\begin{array}{ccc}
\text{1} & \text{2} & \text{3} \\
\text{4} & \text{5} \\
\end{array}
\]

\[
\begin{array}{ccc}
\text{is to} & \triangle & \text{as} & \square & \text{is to} & ? \\
\end{array}
\]

\text{ANSWER: 2} \quad \text{The shading and unshading of the inner figure varies alternately, while the shape of outer figure also varies.}

2. Choose from the following numbered figures, the one which makes the best comparison or has a relationship similar to that between the first two figures.
3. Which of the following five numbered figure makes the best comparison?

4. Select from the numbered figures the one which has the same analogical relationship as in the first two figures?

**ANSWER:**

3. Reduce the solid (doubled) lines to a single line and add a horizontal single line.

2. The six-sided hexagon is divided into six equal parts by lines drawn from its vertices. Just as the three-sided triangle is divided into three equal parts by lines drawn from its vertices.

4. The six-sided hexagon is divided into six equal parts by lines drawn from its vertices. Just as the three-sided triangle is divided into three equal parts by lines drawn from its vertices.
1. The square is a direct frontal view of the cube that is seen on looking from right to left. The triangle is a direct frontal view of the pyramid that is (answer figure 1) seen on looking from right to left.

5. Which of the five-numbered figures makes the best comparison or has the same relationship as the first two figures?

ANSWER: 2 The position of the geometric figures is reversed. The line remains on the same side of the figure, but is reversed.