

# CH 5 NONVERBAL REASONING 1

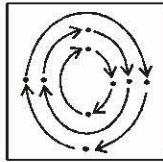
## ANSWERS AND EXPLANATIONS

1. (b) In alternate steps one and two line segments rotate by  $90^\circ$  ACW while one dash is added in each step.
2. (c) In each step one element remains static while other three shift closer or away from the axis.
3. (e) In each step a new arrow is added while the elements rotate by  $90^\circ$  CW. The pre-existing elements shift in a cyclic order.
4. (d) Two ACW-end elements move two and one side CW in alternate steps while the CW-end element is lost and a new element appears on ACW end. The middle element remains shaded.
5. (e) Beginning from the middle-right element in CW order, one element is replaced by a new one in each step. Four elements shift one step CW and the other four in ACW order in each step. The movement itself rotates by  $90^\circ$  CW in each step.
6. (c) In alternate steps the lower and the upper elements get inverted while the heads of other three elements move one step in CW order.
7. (a) Two of the elements interchange positions while the other three shift one step CW in cyclic order.
8. (a) In alternate steps the figure shifts one and one-and-a-half-sides ACW while it gets inverted vertically and laterally.
9. (b) Three elements shift one step ACW in cyclic order while the oval-shaped element shifts one side CW and a new element appears in its place.
10. (b) One inner and one outer line segment get curved in alternate steps while previous ones get inverted in each step.
11. (e) In the first step the ACW-end element is lost. The CW-end element shifts to second from ACW end and all the elements shift half-a-side ACW. A new element appears at ACW end. In the next step the CW-end element is lost. A new element appears at ACW-end. The ACW end element and the middle one shift half-a-side ACW. The second from ACW end shifts half-a-side CW while the second from CW end moves one-and-a-half sides ACW.
12. (c) The elements move one side CW and two of the adjacent elements interchange places alternately. The half-shaded circle rotates  $90^\circ$  CW,  $180^\circ$ ,  $180^\circ$ ,  $90^\circ$ ... and so on. The quarter shaded circle rotates by  $180^\circ$  and  $90^\circ$  ACW.
13. (b) In the first step two of the elements change directions. In the next step all the elements except one on the CW side of previously changed element change directions.
14. (e) In each step one of the dashes converts into arc which gets inverted and again changes to dash in subsequent steps.
15. (a) Shading of the squares changes in alternate steps. Shadings of triangle and circle move one step ACW. From fig a to b the CW end element moves one side CW. The central element moves to the vacant corner while the other two interchange places.
16. (c) The CW element moves  $2, 1\frac{1}{2}, 1, \frac{1}{2}, 0$  sides CW and order of the remaining elements is reversed. A new element appears at the CW end.
17. (e) In each step five line segments are added to form squares in ACW direction. A new line is added from left, then lower, then right.
18. (a) The half-shaded squares move one step ACW and rotate by  $90^\circ$  ACW. A new square on the ACW side gets shaded and its shading is  $90^\circ$  ACW to its counterpart on the CW side.
19. (b) In each step the upper two interchange places

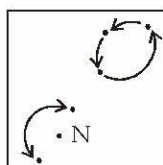


with lower two elements. The upper left element is replaced by a new one in the first two steps while the lower right is replaced by a new one in the next two steps.

20. (d) The whole figure rotates by 45° ACW in each step. One and two arcs forming petals are added in alternate steps. One arc is added on the ACW side.
21. (3) From figure 1 to 2, 3 to 4 and 5 to 6 elements rotate in the following way :

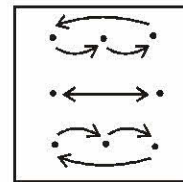


22. (4) From figure 1 to 2, 3 to 4 and 5 to 6 the semi circles at central line interchange places in pairs from top to bottom and the last semi circle remains unchanged. The two corner elements interchange places and one of them is replaced by a new element.
23. (2) The element at centre rotates by 45°, 90°, 135°, 180°, 225° in CW direction in each step and the four corner elements interchange places in pairs in each step.
24. (5) The star moves  $\frac{1}{2}$ , 1,  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$  places respectively in CW direction in each step. The (c) moves one place in CW direction in each step. The third element moves half-a-side vertically and changed into new element after three steps.
25. (4) From figure 1 to 2, 3 to 4 and 5 to 6 elements move in the following way where N is a new element.

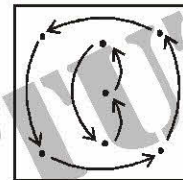


26. (5) Each element rotates by 90° in CW direction after three steps and the corner elements move half-a-side in CW direction in each step.
27. (1) Movement of element is repeated after three steps.

28. (2) From step 1 to 2, 3 to 4 and 5 to 6 the third and the fourth letters become the first and second letters respectively while the first and the second letters become third and fourth letters respectively and the fifth letter is replaced by a new letter.
29. (1) From step 1 to 2, 3 to 4 and 5 to 6 elements move in the following way :



30. (3) From step 1 to 2, 3 to 4 and 5 to 6 elements move in the following way :



31. (4) In alternate steps one element from up and one element from down are changed into a new element while other elements remain the same.
32. (2) The lowermost element rotates 45°, 90°, 45°, 90° in ACW direction in each step while the oval-shaped figure gets doubled in alternate step. The two central elements get inverted at their place and then interchange places.
33. (3) Figure 'A' and 'T' rotate by 45° in ACW direction in each step, while A moves  $\frac{1}{2}$  and 1 places alternately, T moves  $\frac{1}{2}$  place in each step in CW direction. In the centre a new element appears in each step.
34. (1) Figure 'A' moves diagonally in each step while figure 'K' moves  $\frac{1}{2}$  and 1 places in CW direction in alternate steps. The circle gets doubled in alternate step.
35. (5) Each figure moves half-a-place in ACW direction in each step while the element at centre rotates



