



Book - 14

VISUAL REASONING

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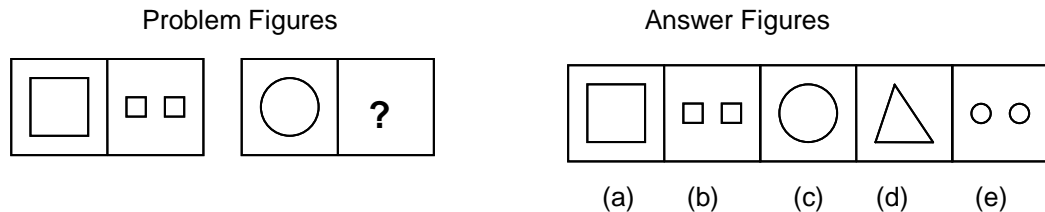
Visual Reasoning

Instructions

These are problems that are in the form of figures, drawings and designs. The problems may be in the form of series, analogies, classification, cube turning, mirror image, paper folding, paper cutting, completion of incomplete pattern, figure perception, spotting the hidden designs or construction of square.

ANALOGIES:

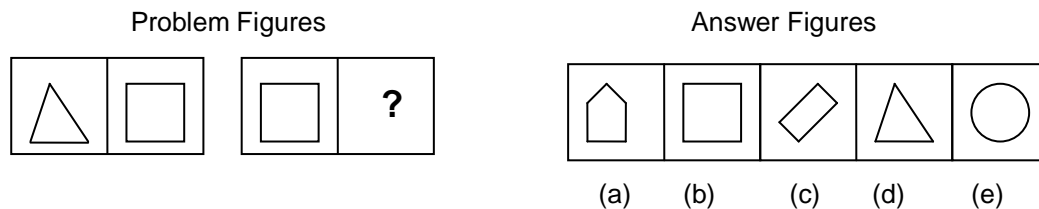
In these questions, there are two sets of figures viz. the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains a pair of related figures and the second unit contains one figure and a question mark in place of the fourth figure. You have to establish a similar relationship between two figures and point out which one of the answer figures should be in place of the question mark.



Consider the above problem figures. The second figure is related to the first figure in a certain way. That is the elements in the second figure are double the elements in the first figure. The first figure has one square and the second has two squares.

The third and fourth figures should also have the same relationship as the first and second have. That means that the fourth figure should have two circles.

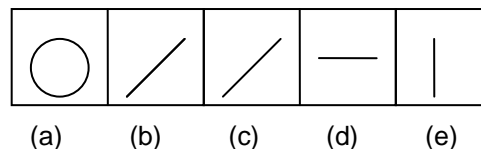
∴ Answer is (e).



The first problem figure is made up of three lines and the second figure is made up of four lines. Thus the second figure has one line more than the first figure. As the third figure has four lines the fourth figure should have five lines. Therefore the answer is (a).

CLASSIFICATION :

In classification the problem figures themselves are the answer figures. Out of the five given figures four are similar in a certain way. One figure is not like the other four. You have to identify the “odd man out”.



In the figures given below, of the five figures four are straight lines whereas one is a circle. Thus the circle is the “odd man out”.



SERIES :

The four figures given at the left are the problem figures. The next five are the answer figures. The problem figures make up a series. That means they change from left to right in a specific order. If the figures continue to change in the same order what would the fifth figure be? In the example below, the line across the problem figures is falling down. Thus if the line continues to fall its fifth position would be lying flat i.e. it will be horizontal. Therefore the answer is (d).

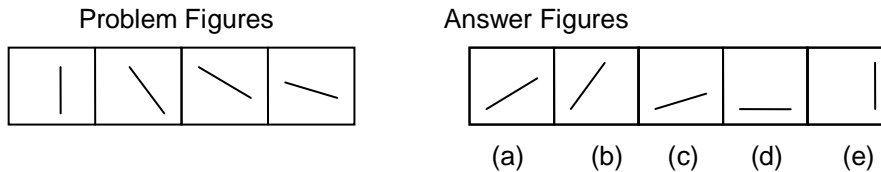
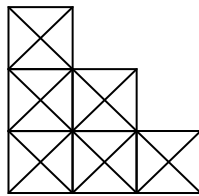


FIGURE PERCEPTION:

In this type of problems, we have to count number of figures hidden in the given design.



For Example:

1. The number of squares in the given figure is
(a) 12 (b) 10 (c) 14 (d) 15
2. The number of rectangles excluding squares in the above figure is
(a) 12 (b) 13 (c) 14 (d) 17
3. The number of triangles in the figure is
(a) 54 (b) 48 (c) 69 (d) 70

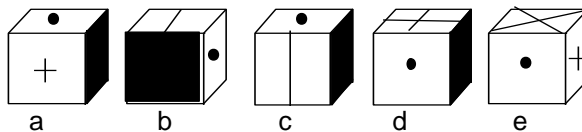
Upon studying the figure one can easily state that the answer to the first question is c, that to the second question is d and to the third question is c.

CUBE TURNING:

In this type of problems we have to deal with different positions of the same cube.

For example :

The drawing on the left in each of the following figures represents a cube. There is a different design on each of the six faces of the cube. four other drawings of the cube are lettered (a), (b), (c) and (d). point out which one of the four could be the cube on the left turned to a different position. The cube on the left may have been turned over or around or over and around.

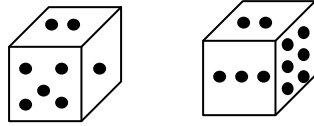


After studying all the choices, one can infer that the answer is (c).

PROBLEMS ON DICE:

Sometimes we are given figures showing the same die in various positions. After looking at these figures, we have to find the number opposite a given number on the die. The procedure for finding such a number will be clear from the example given below.

Two positions of a block are given below. When one is at the top, which number will be at the bottom?



- (a) 3 (b) 6 (c) 2 (d) 1 (e) 4

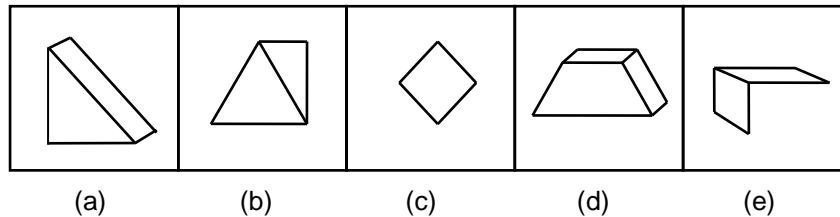
In both the figures 2 is at the top. To get the position of second figure, we have to rotate the dice in the first figure two times in clockwise direction. After rotating the dice two times in the same direction, 6 comes in the place of 1. So 6 is on the side opposite to the 1.

∴ Answer is (b).

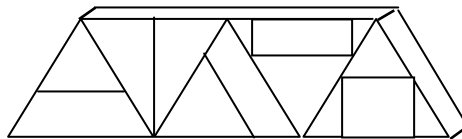
HIDDEN FIGURE TEST:

Hidden figure test is one more type of problem that one may encounter in visual reasoning. A simple figure is given. One has to identify it in more complex figures.

For Example :



Find the simple figures hidden in this complex figure.



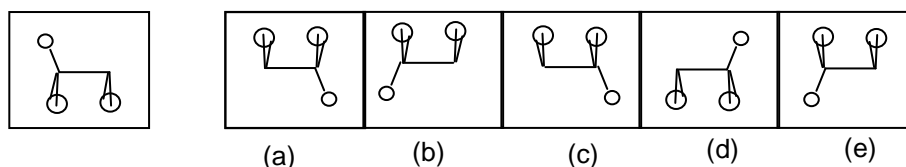
By inspection one can say that the figure (d) is hidden in the above figure.

MIRROR IMAGES:

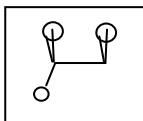
In this type of problems the reflection of a design is seen in mirrors placed in different manners.

For Example :

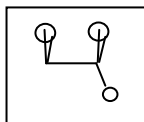
A plane mirror is kept horizontally below the figure and then one kept on its side. Choose the correct image in the second mirror.



In the given problem the image of the question figure in the mirror kept horizontally below the figure is



The image of this in the mirror kept at the side of the first mirror is

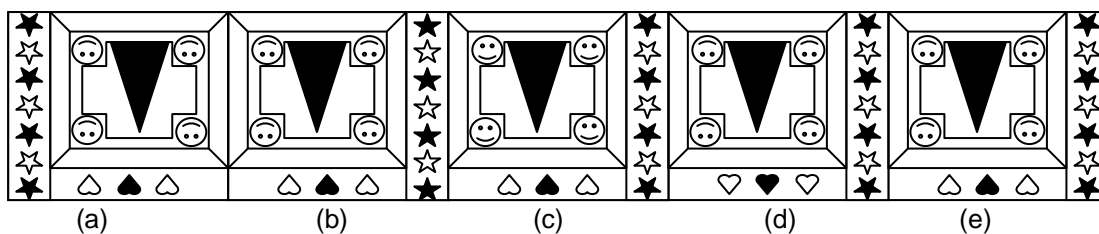
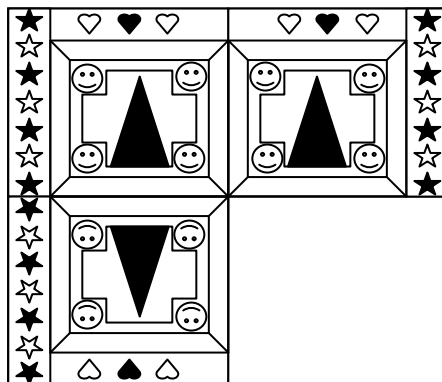


∴ Answer is (a).

COMPLETION OF PATTERN :

In this type of problems we have to find out the missing part of the figure.

For Example :

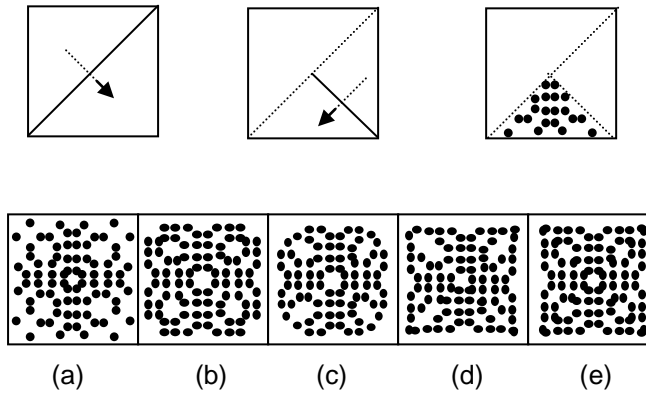


After studying all the choices, one can infer that the answer is (e).

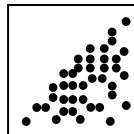
PAPER CUTTING:

In this type of questions the manner in which the paper is folded is given. In the last figure, some marks are made. We have to select one of the figures from the set of five answer figures that would most closely resemble the paper when unfolded.

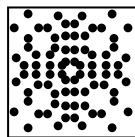
For example:



Now unfolding the paper once the paper would look like



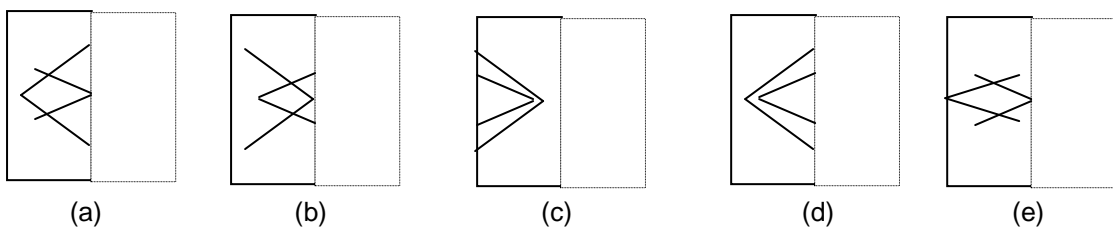
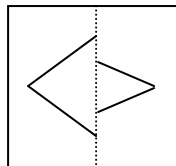
And completely unfolded paper would look like



∴ Answer is (a).

PAPER FOLDING:

In this type of problems we have to identify the figure, which would most closely resemble the pattern that would be formed when a transparent sheet carrying designs on either side of the dotted line, is folded along this line. For Example:



After studying all the choices, one can infer that the answer is (d).

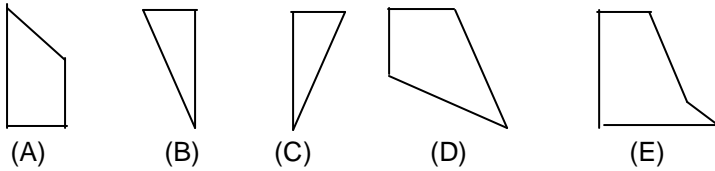
CONSTRUCTION OF SQUARES:

In this type of problems we have to construct a square by combinations of three parts selecting them from the list of five different alternatives.



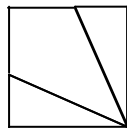
To solve this type of problem select a piece which contains a right angle between two adjacent outer edges. Try to fit another piece in its hollow spaces. If you can't, select another piece. Repeat the procedure with different sets of such pieces. Finally with the two pieces fitting into each other, find the last piece which fits into the other two selected ones, to make a completed square.

For example:



- (a) ABC (b) ABE (c) BCD (d) BDE (e) ABD

The square is



∴ Answer is (c).

MATRIX:

In this type of questions we have to fill the matrix from the options given.
For example:

In the given matrix:

Number of arrow in first row is 3 – 4 – 5

Number of arrow in second row is 4 – 5 – 3

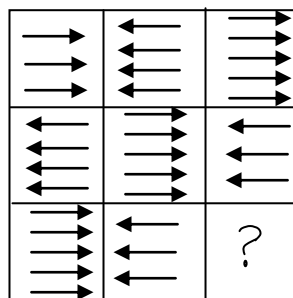
∴ Number of arrow in third row must be 5 – 3 – 4

Moreover direction of arrows changes after every cell in rows as well as in columns. So direction of arrows in the answer figure must be towards right hand side.

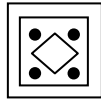
∴ Answer is (d).

SIMILAR QUALITY

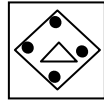
In this type of questions we have to choose the figure which is most similar to the question figure.
For example:



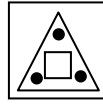
- (A) (B) (C) (D) (E)



(A)



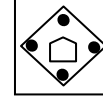
(B)



(C)



(D)



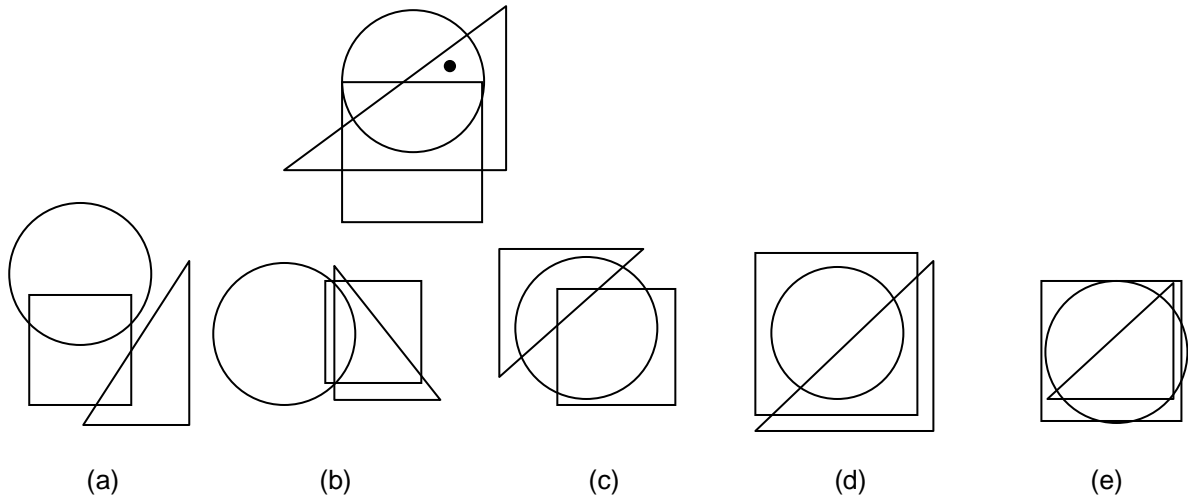
(E)

In the question figure there is a square inside the square and there is one dot at every corner of the larger square. Only option (d) shows the similar quality i.e. It has a triangle inside a larger triangle, with a dot at every corner.

∴ Answer is (d).

DOT SITUATION:-

The problems on dot situation involve the search of similar conditions in the alternative figures as indicated in the problem figure. The problem figure contains dots in placed in the spaces enclosed between the combinations of square, triangle and circle. Selecting one of these dots we observe the region in the four alternatives. Once we have found it, we repeat the procedure for other dots, if any. The alternative figure that contains all such regions is the answer. For example:



In this case the dot appears in the portion which is common to the circle and the triangle but not to the square. In all the alternatives except (c) the circle and the triangle either don't intersect or the portion common to both of them lies entirely inside the square.






∴ Answer is (c).


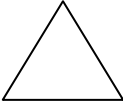
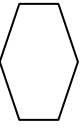
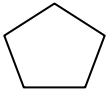

Visual Reasoning

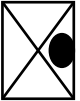
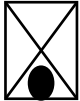
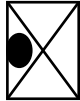
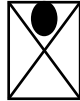
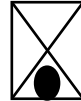
Exercise 1






Directions: In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.


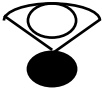



1.

				
(a)	(b)	(c)	(d)	(e)
2.

				
(a)	(b)	(c)	(d)	(e)
3.

				
(a)	(b)	(c)	(d)	(e)
4.

				
(a)	(b)	(c)	(d)	(e)
5.

				
(a)	(b)	(c)	(d)	(e)

Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

6

(a) (b) (c) (d) (e)

7

(a) (b) (c) (d) (e)

8

(a) (b) (c) (d) (e)

9

(a) (b) (c) (d) (e)

10

(a) (b) (c) (d) (e)

Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11.

(a) (b) (c) (d) (e)

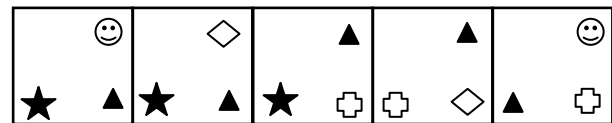
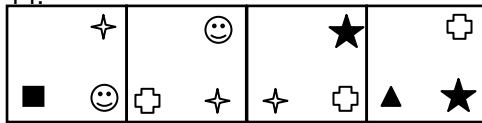
12.

(a) (b) (c) (d) (e)

13.

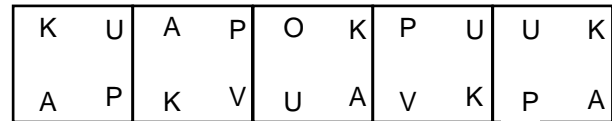
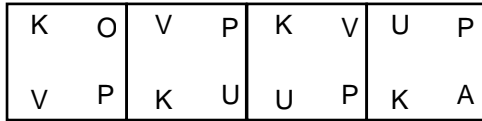
(a) (b) (c) (d) (e)

14.



(a) (b) (c) (d) (e)

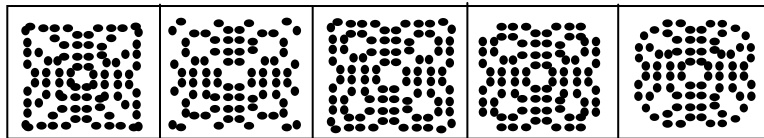
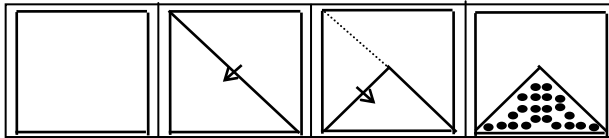
15.



(a) (b) (c) (d) (e)

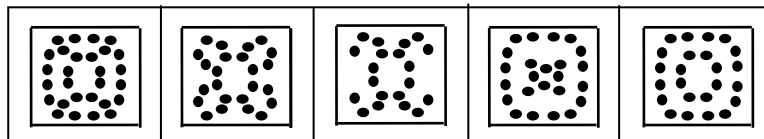
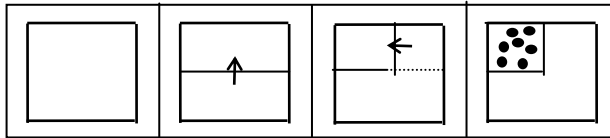
DIRECTIONS:- For Qns. 16-18 In each of the following questions, the figures on the left show how a particular piece of paper has been folded, along the dotted line in the direction of the arrow. After the folding is done some holes are punched in the folded paper. The paper is then opened fully. You have to choose that figure from the answer choices which represents accurately the unfolded piece of paper.

16.



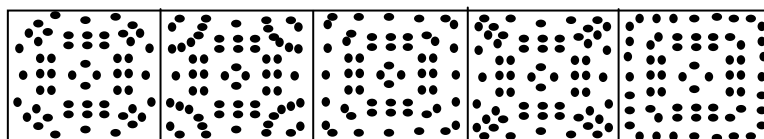
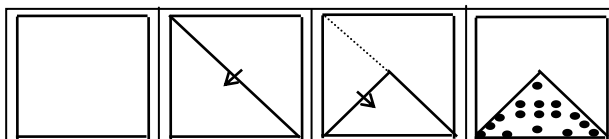
(a) (b) (c) (d) (e)

17.



(a) (b) (c) (d) (e)

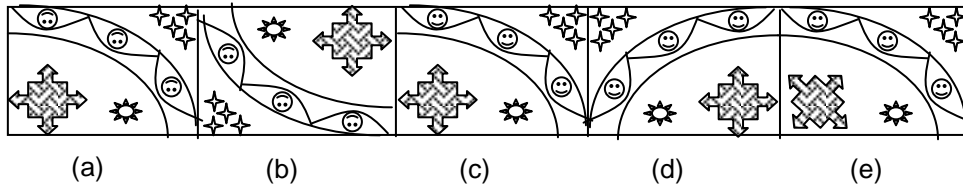
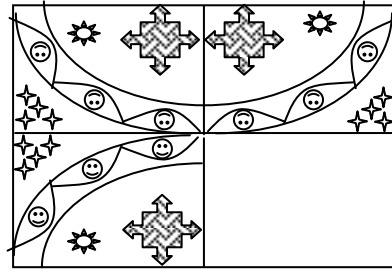
18.



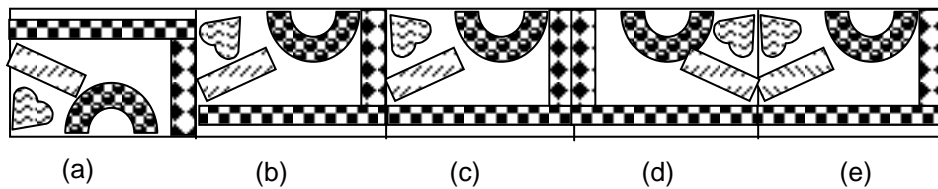
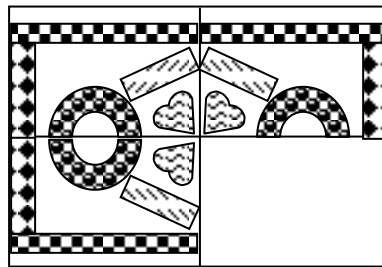
(a) (b) (c) (d) (e)

DIRECTIONS:- For Qns. 19-20 : Four patterns are arranged as given below. Fill in the blank square from choices given.

19.



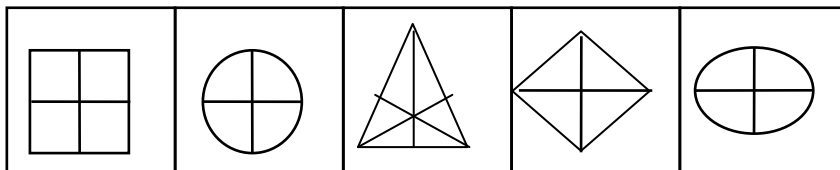
20.



Exercise 2

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

1.



(a)

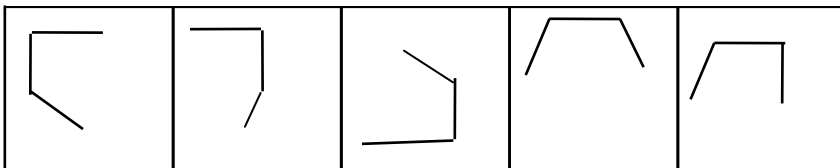
(b)

(c)

(d)

(e)

2.



(a)

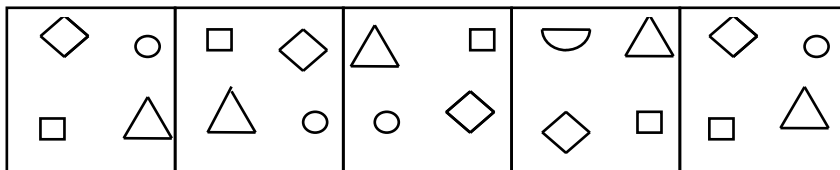
(b)

(c)

(d)

(e)

3.



(a)

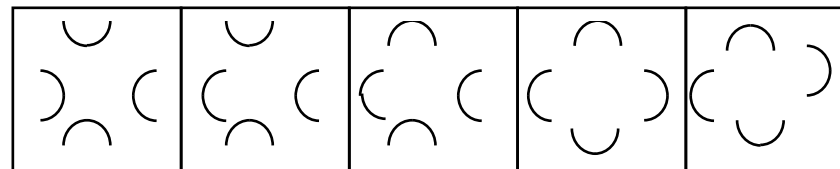
(b)

(c)

(d)

(e)

4.



(a)

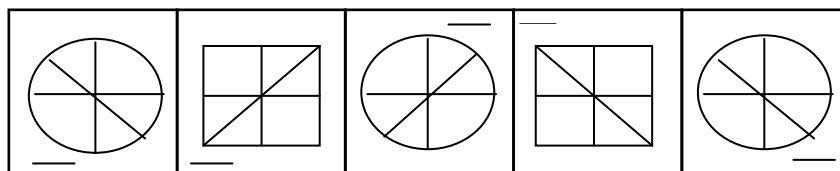
(b)

(c)

(d)

(e)

5.



(a)

(b)

(c)

(d)

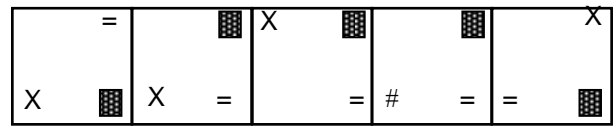
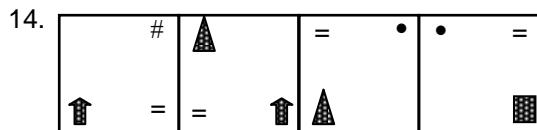
(e)

Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

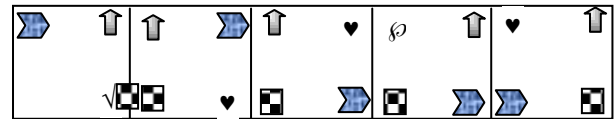
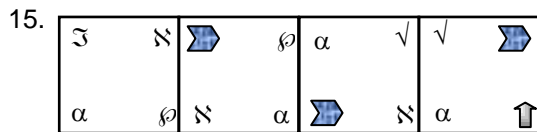
6. (a) (b) (c) (d) (e)
7. (a) (b) (c) (d) (e)
8. (a) (b) (c) (d) (e)
9. (a) (b) (c) (d) (e)
10. (a) (b) (c) (d) (e)

Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11. (a) (b) (c) (d) (e)
12. (a) (b) (c) (d) (e)
13. (a) (b) (c) (d) (e)



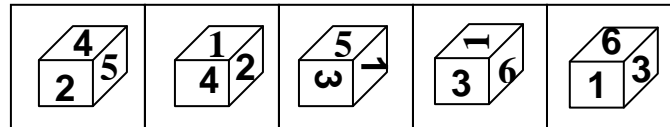
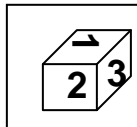
(a) (b) (c) (d) (e)



(a) (b) (c) (d) (e)

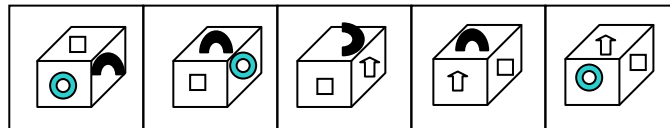
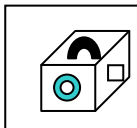
Directions : The drawing on the left in each of the following questions represents a cube. There is a different design on each of the six faces of the cube. Four other drawings of the cube are lettered (a), (b), (c) and (d). Point out which one of the four could possibly be the cube on the left turned to a different position. The cube on the left may have been turned over or around or both over and around.

16.



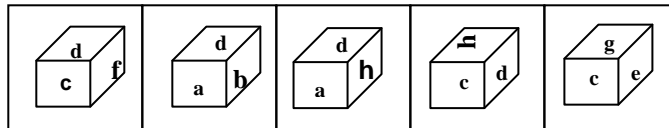
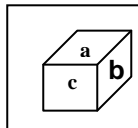
(a) (b) (c) (d) (e)

17.



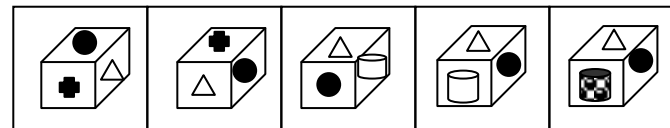
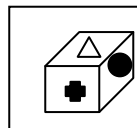
(a) (b) (c) (d) (e)

18.



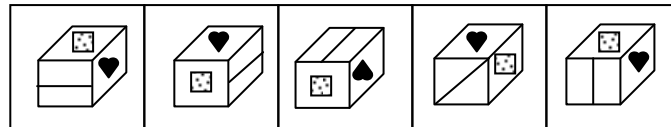
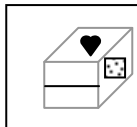
(a) (b) (c) (d) (e)

19.



(a) (b) (c) (d) (e)

20.

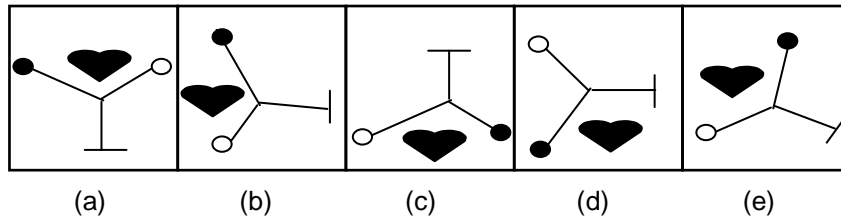


(a) (b) (c) (d) (e)

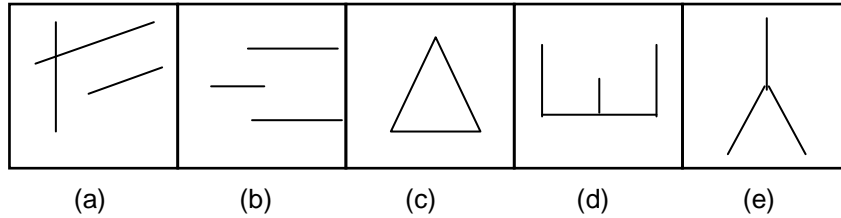
Exercise 3

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

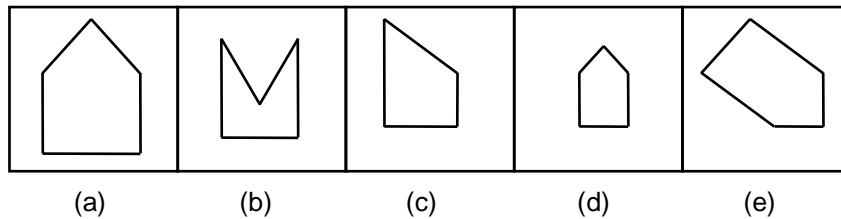
1.



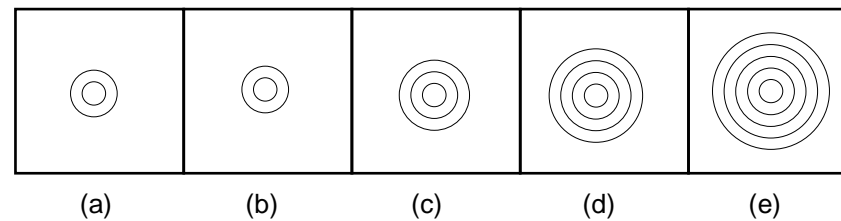
2.



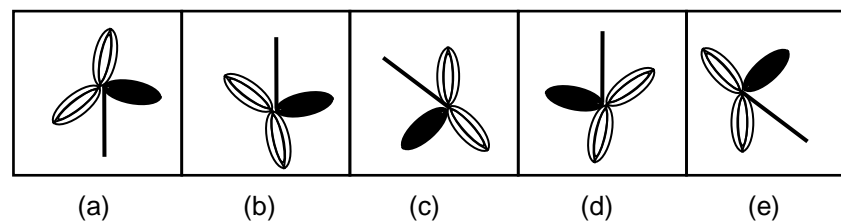
3.



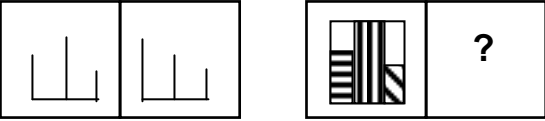
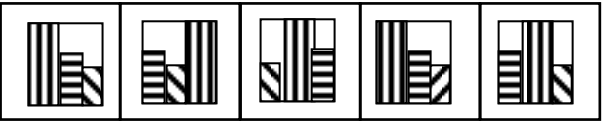
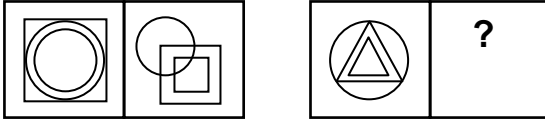

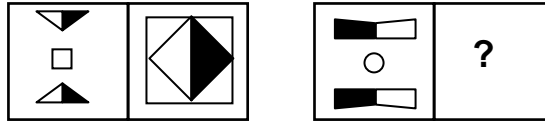
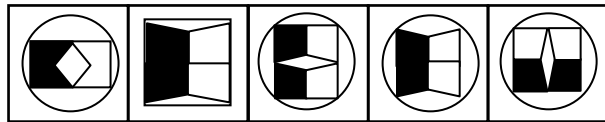
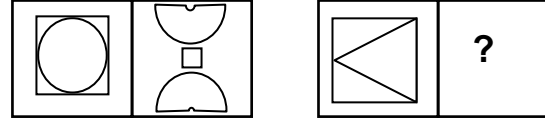
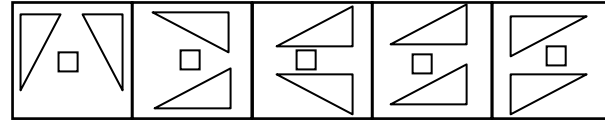
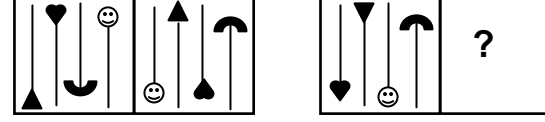
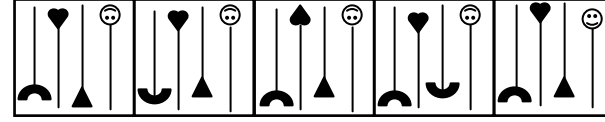
4.



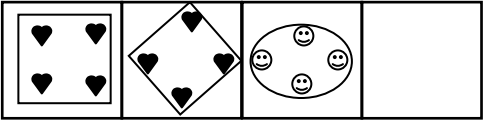

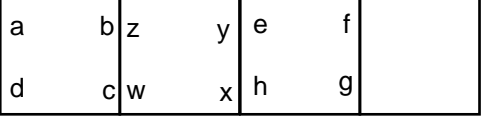
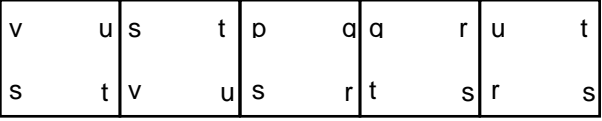
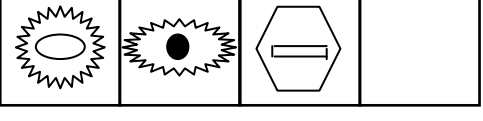
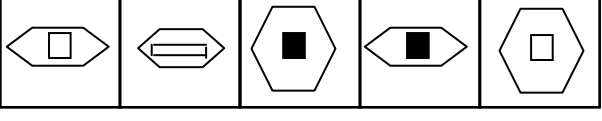
5.

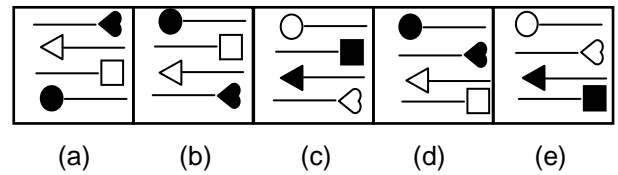
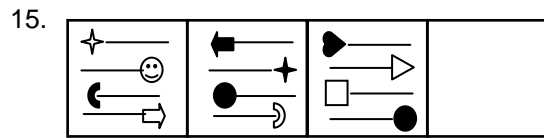
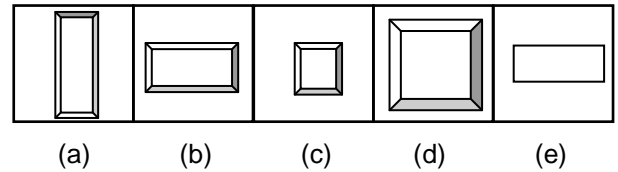
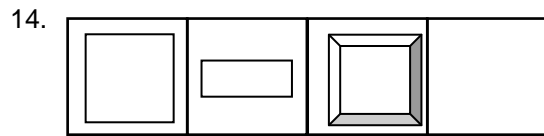


Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

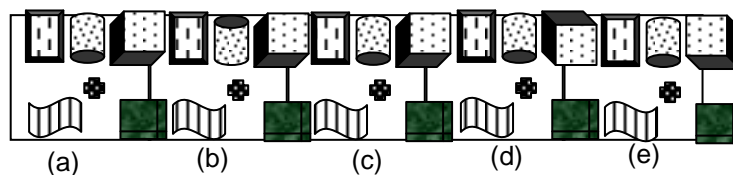
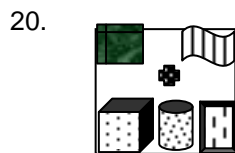
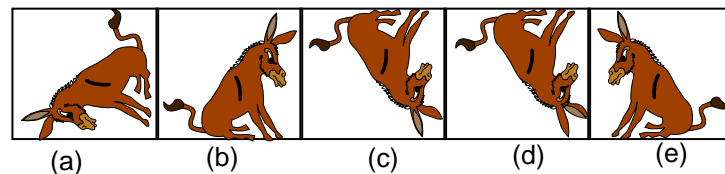
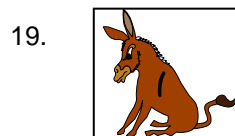
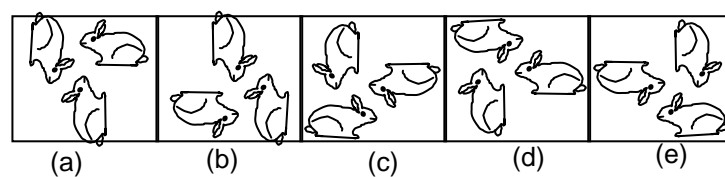
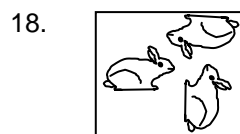
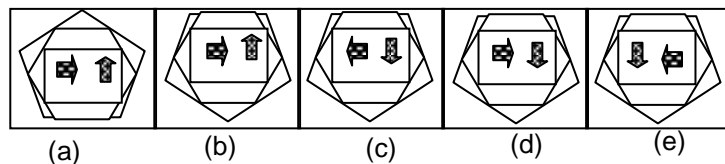
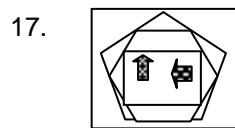
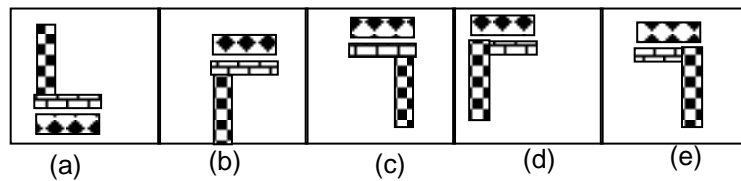
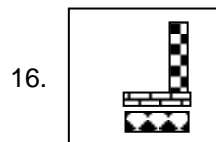
6.  
7.  
8.  
9.  
10.  

Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11.  
12.  
13.  



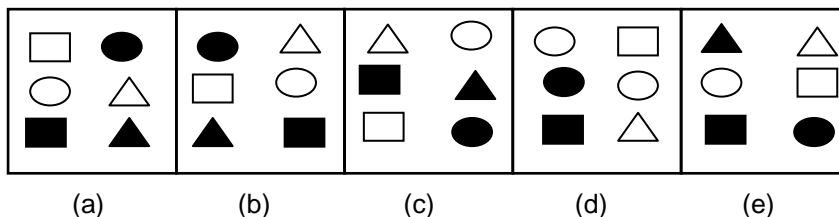
DIRECTIONS : Qns.16-20 are based on reflections of the figures given in a plane mirror kept horizontally below the figures and then kept on its side. Choose the correct image.



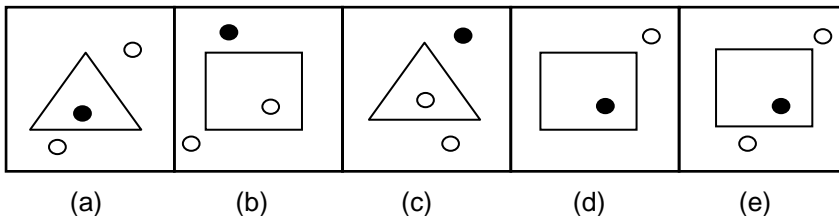
Exercise 4

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

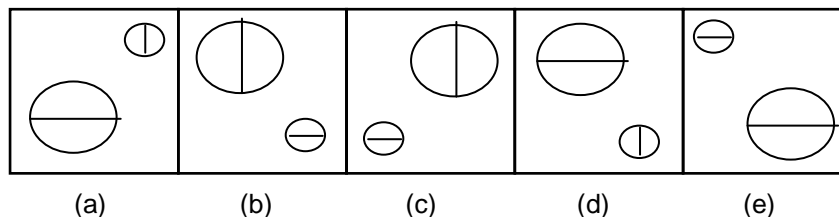
1.



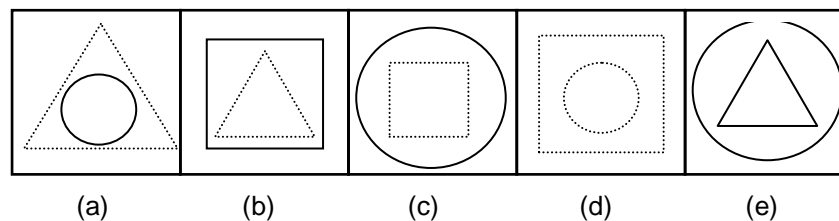
2.



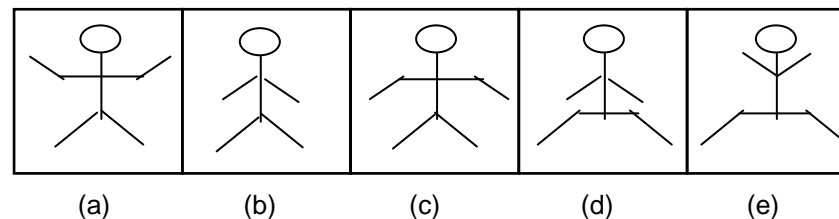
3.



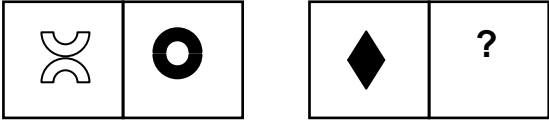
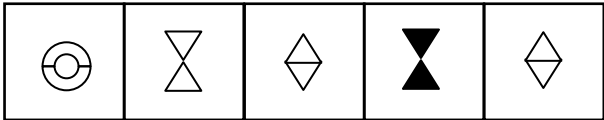
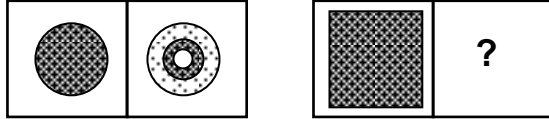
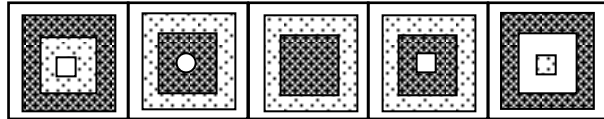
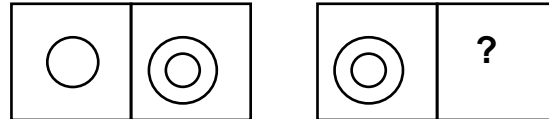
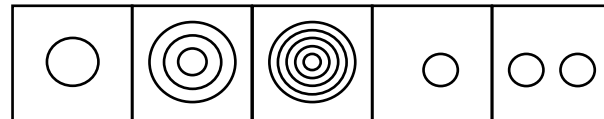
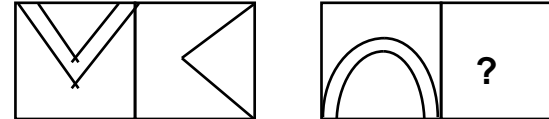
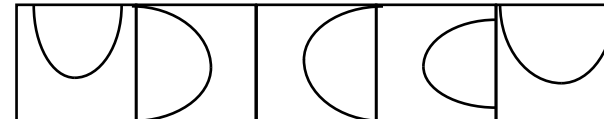
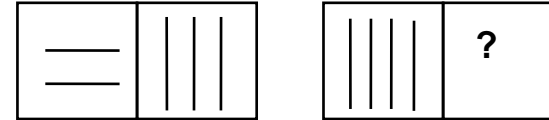
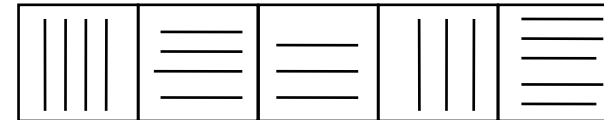
4.



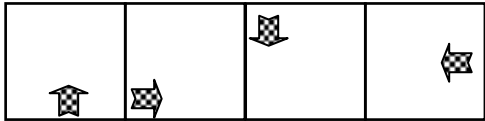
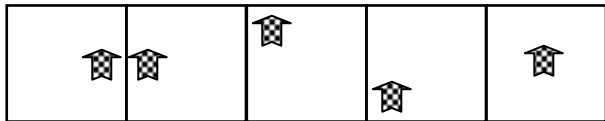
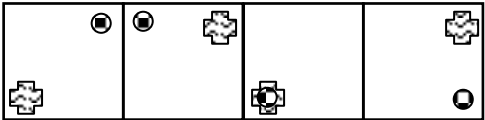
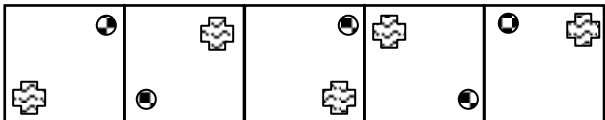
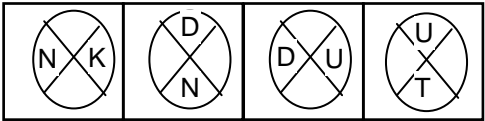
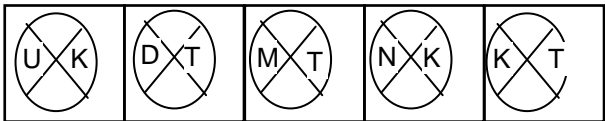
5.

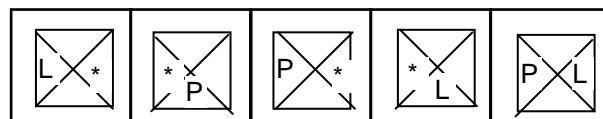
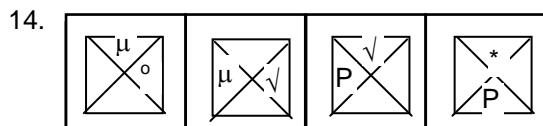


Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

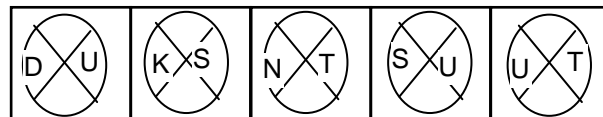
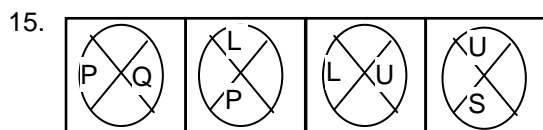
6.  
(a) (b) (c) (d) (e)
7.  
(a) (b) (c) (d) (e)
8.  
(a) (b) (c) (d) (e)
9.  
(a) (b) (c) (d) (e)
10.  
(a) (b) (c) (d) (e)

Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11.  
(a) (b) (c) (d) (e)
12.  
(a) (b) (c) (d) (e)
13.  
(a) (b) (c) (d) (e)

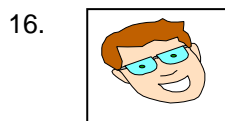


(a) (b) (c) (d) (e)

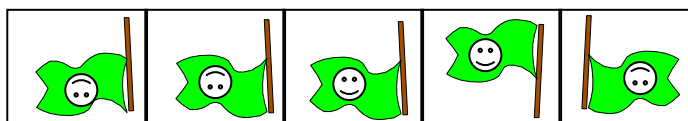
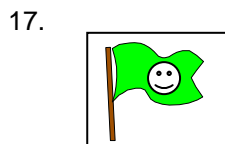


(a) (b) (c) (d) (e)

DIRECTIONS : Qns.16-20 are based on reflections of the figures given in a plane mirror kept horizontally below the figures and then kept on its side. Choose the correct image.



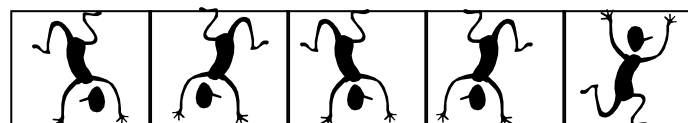
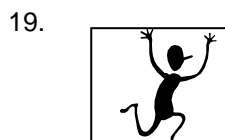
(a) (b) (c) (d) (e)



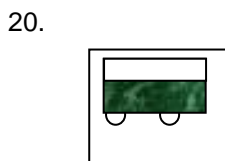
(a) (b) (c) (d) (e)



(a) (b) (c) (d) (e)



(a) (b) (c) (d) (e)

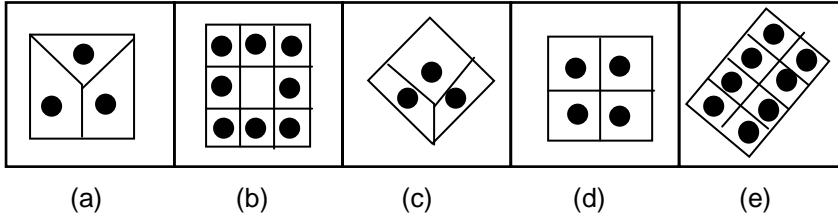


(a) (b) (c) (d) (e)

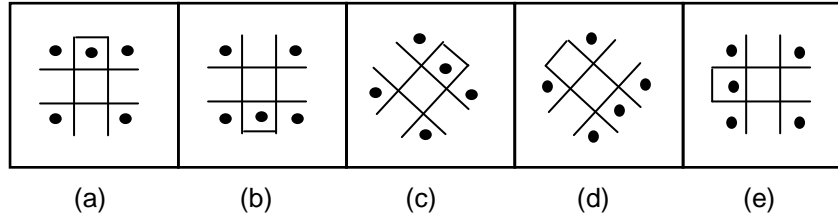
Exercise 5

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

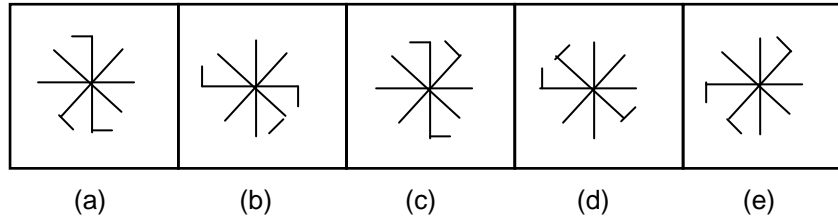
1.



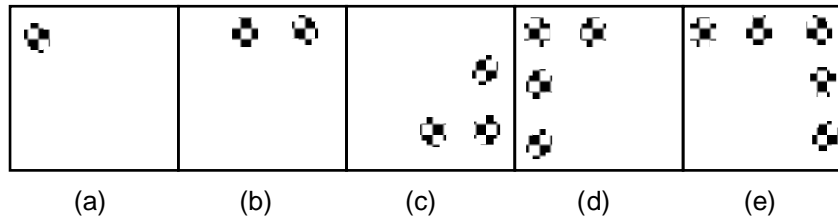
2.



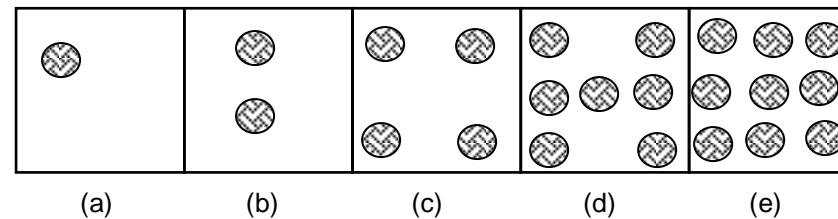
3.



4.



5.

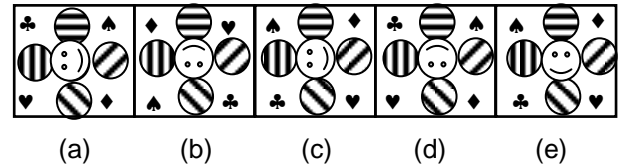
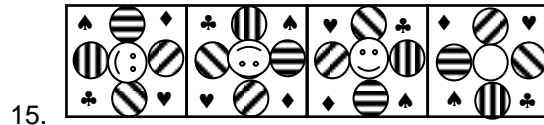
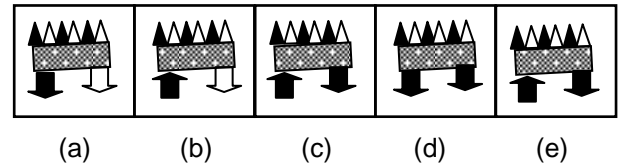
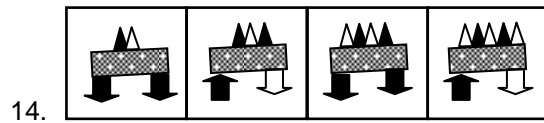


Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

6. (a) (b) (c) (d) (e)
7. (a) (b) (c) (d) (e)
8. (a) (b) (c) (d) (e)
9. (a) (b) (c) (d) (e)
10. (a) (b) (c) (d) (e)

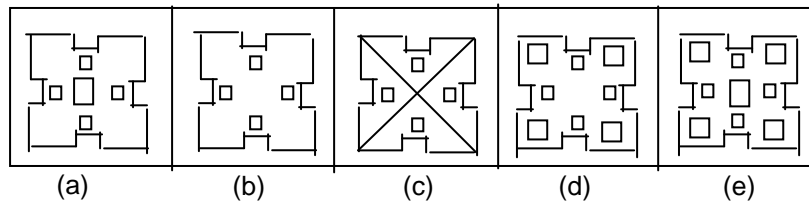
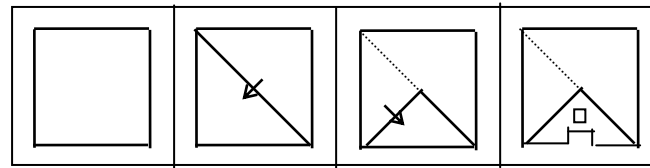
Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11. (a) (b) (c) (d) (e)
12. (a) (b) (c) (d)
13. (a) (b) (c) (d)

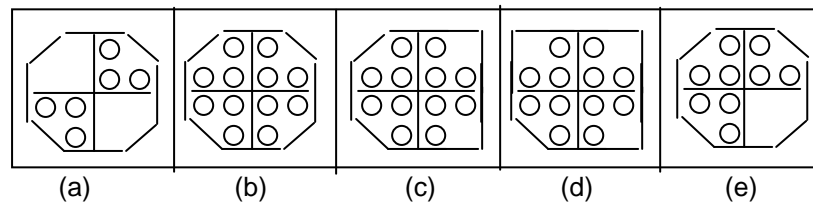
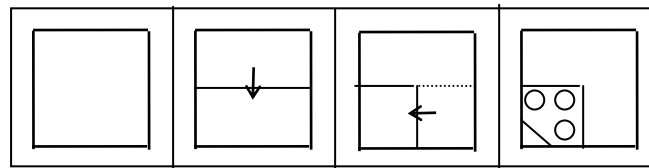


DIRECTIONS:- For Qns. 16-18 In each of the following questions, the figures on the left show how a particular piece of paper has been folded, along the dotted line in the direction of the arrow. After the folding is done some holes are punched in the folded paper. The paper is then opened fully. You have to choose that figure from the answer choices which represents accurately the unfolded piece of paper.

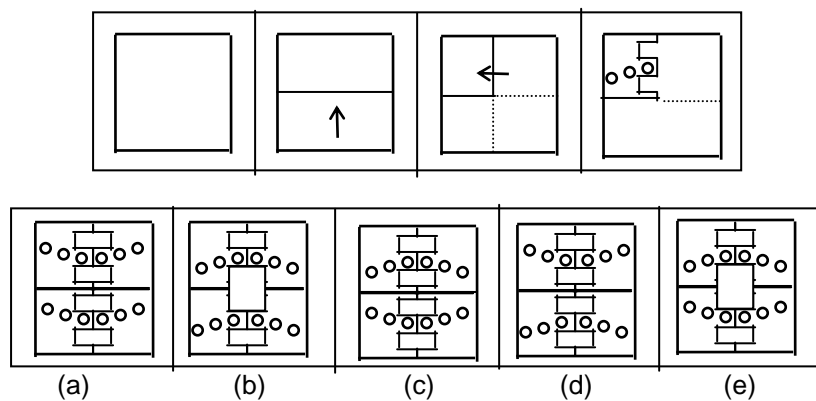
16.



17.

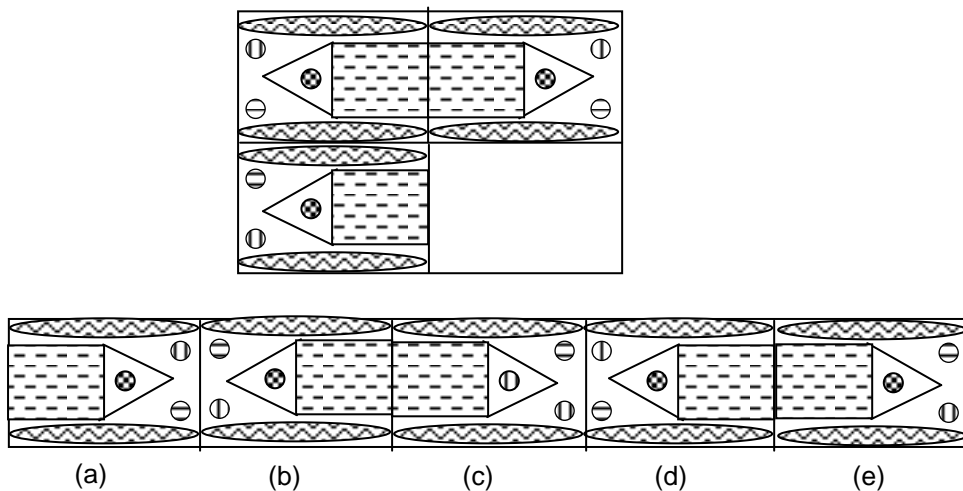


18.

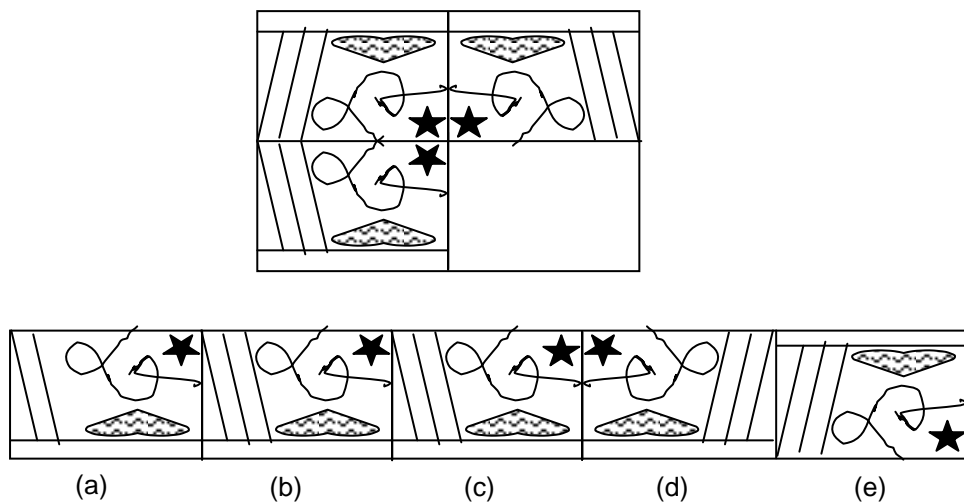


DIRECTIONS:- For Qns. 19-20 : Four patterns are arranged as given below. Fill in the blank square from choices given.

19.



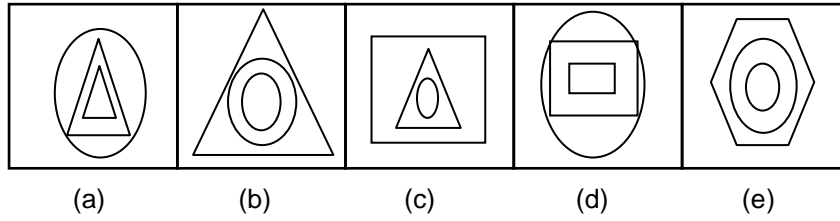
20.



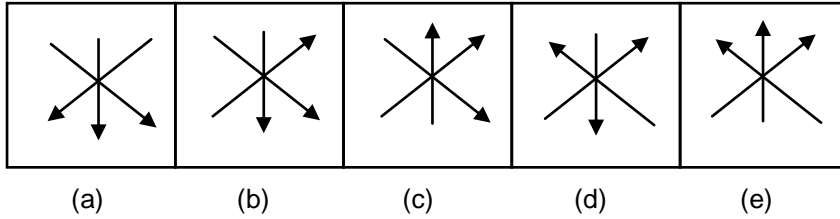
Exercise 6

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

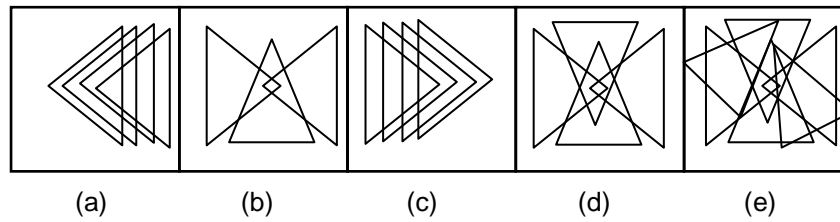
1.



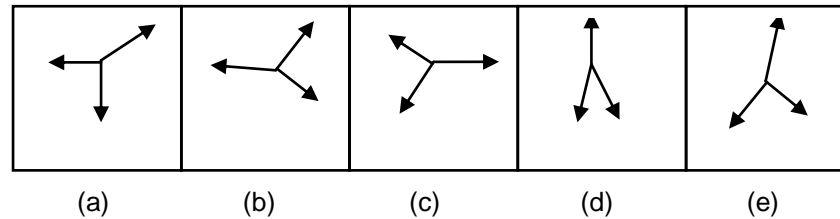
2.



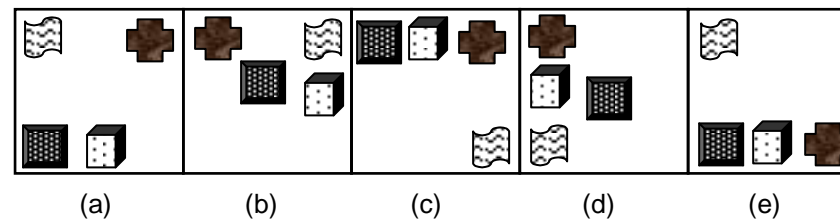
3.



4.



5.

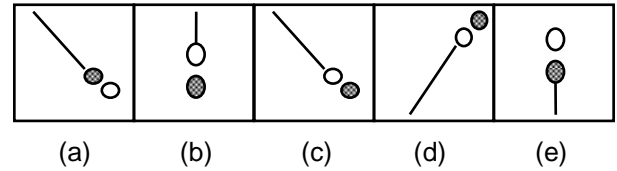
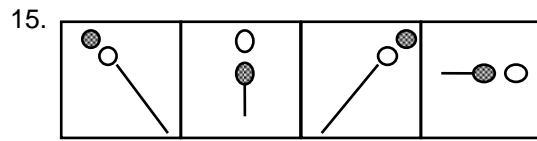
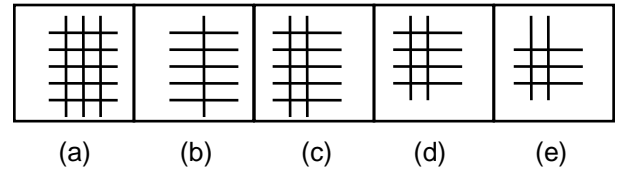
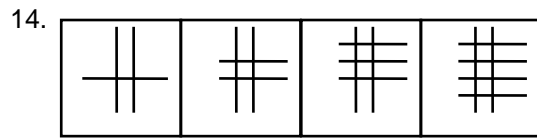


Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

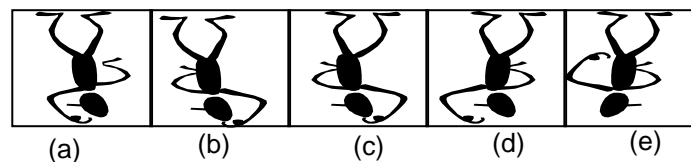
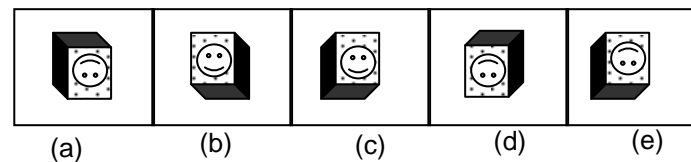
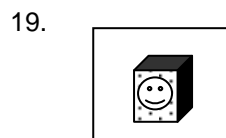
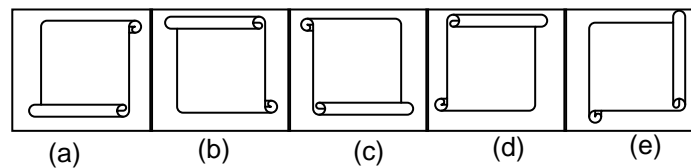
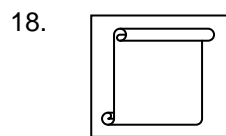
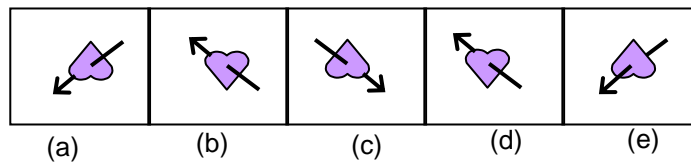
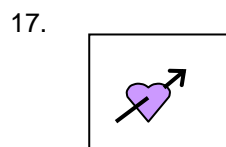
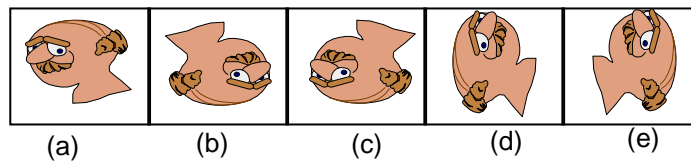
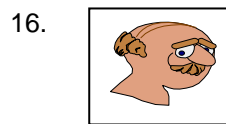
6. (a) (b) (c) (d) (e)
7. (a) (b) (c) (d) (e)
8. (a) (b) (c) (d) (e)
9. (a) (b) (c) (d) (e)
10. (a) (b) (c) (d) (e)

Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11. (a) (b) (c) (d) (e)
12. (a) (b) (c) (d) (e)
13. (a) (b) (c) (d) (e)



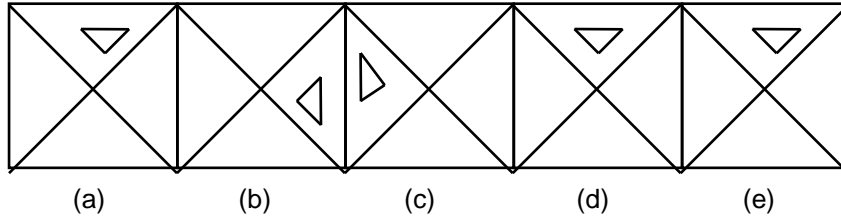
DIRECTIONS : Qns.16-20 are based on reflections of the figures given in a plane mirror kept horizontally below the figures and then kept on its side. Choose the correct image.



Exercise 7

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

1.

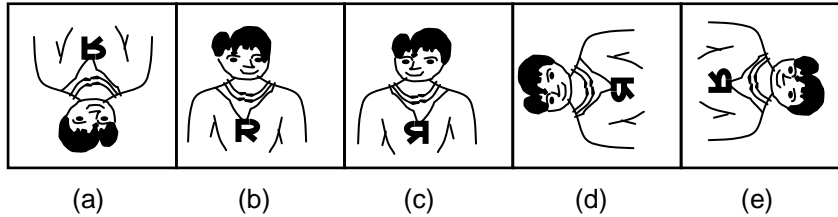


2.

P R	L I	B E	D E	B U
L I	N O	R A	R E	L L

(a) (b) (c) (d) (e)

3.



4.

P A	M Q	K N	D J	T E
L G	H B	G R	S O	P K

(a) (b) (c) (d) (e)

5.

P R	M O	I K	D J	T V
V T	S Q	O M	S O	Z X

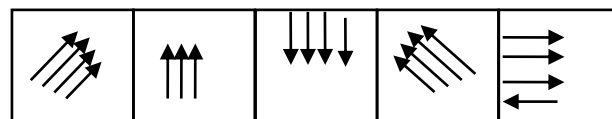
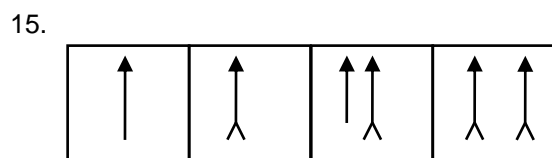
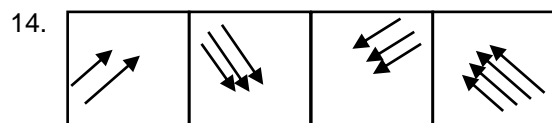
(a) (b) (c) (d) (e)

Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

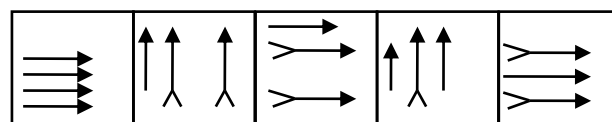
6. (a) (b) (c) (d) (e)
7. (a) (b) (c) (d) (e)
8. (a) (b) (c) (d) (e)
9. (a) (b) (c) (d) (e)
10. (a) (b) (c) (d) (e)

Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11. (a) (b) (c) (d) (e)
12. (a) (b) (c) (d) (e)
13. (a) (b) (c) (d) (e)



(a) (b) (c) (d) (e)



(a) (b) (c) (d) (e)

Directions : Questions 16 - 20 are based on figures 1, 2, & 3.

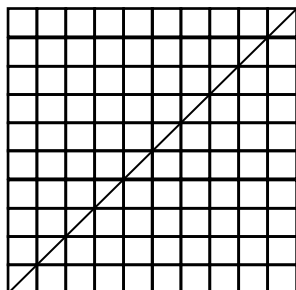


Figure 1

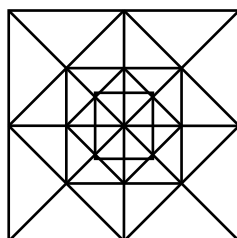


Figure 2

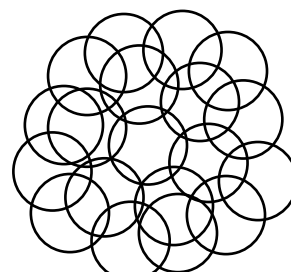


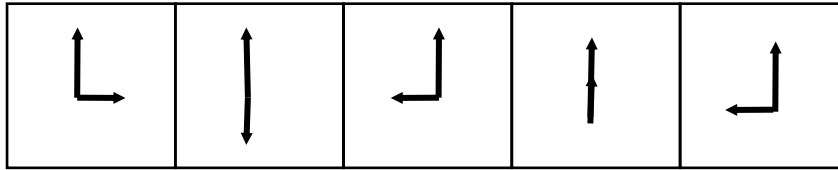
Figure 3

16. The number of squares in figure 1 is,
 (a) 385 (b) 320 (c) 330 (d) 325
17. The number of triangles in figure 1 is,
 (a) 132 (b) 110 (c) 140 (d) 136
18. The number of squares in figure 2 is,
 (a) 12 (b) 25 (c) 15 (d) 13
19. The number of triangles in figure 2 is,
 (a) 24 (b) 32 (c) more than 50 (d) 48
20. How many circles are there in the figure 3?
 (a) 21 (b) 17 (c) 19 (d) 18

Exercise 8

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

1.



(a)

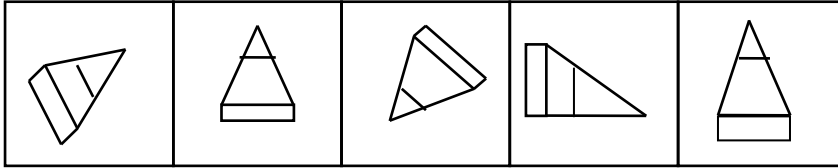
(b)

(c)

(d)

(e)

2.



(a)

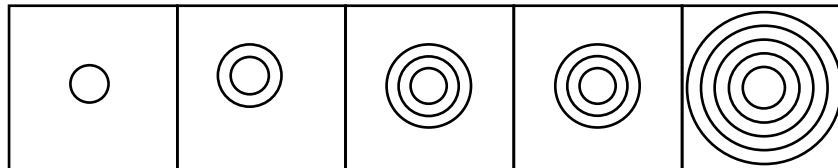
(b)

(c)

(d)

(e)

3.



(a)

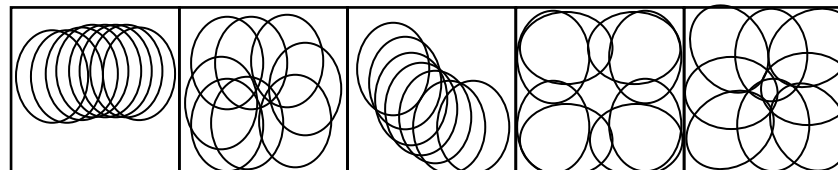
(b)

(c)

(d)

(e)

4.



(a)

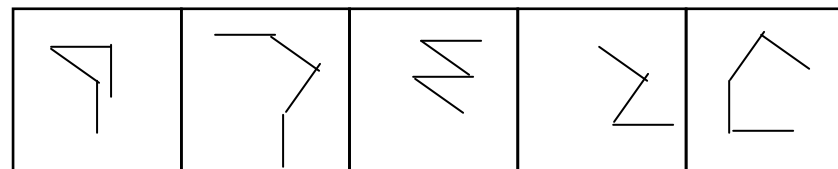
(b)

(c)

(d)

(e)

5.



(a)

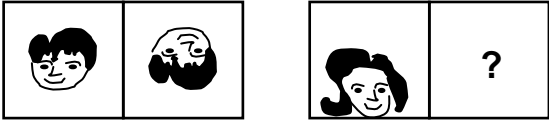
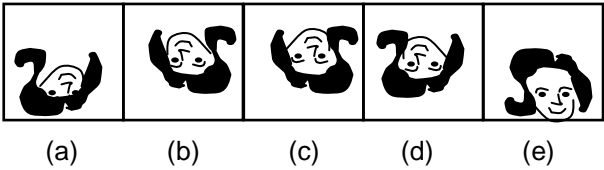
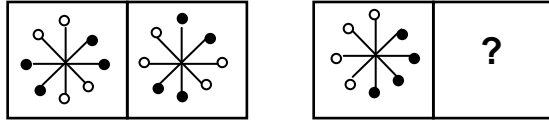
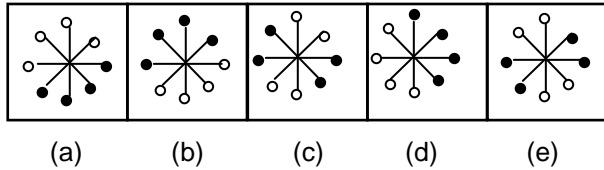
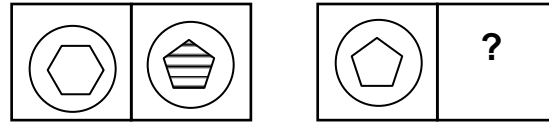
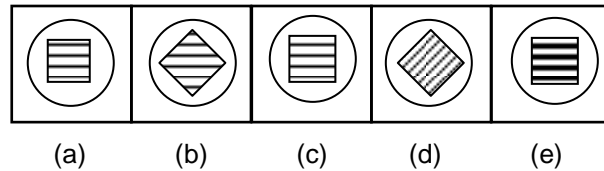
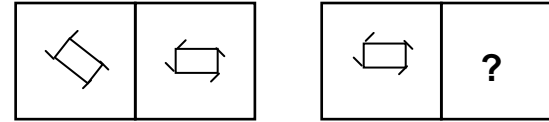
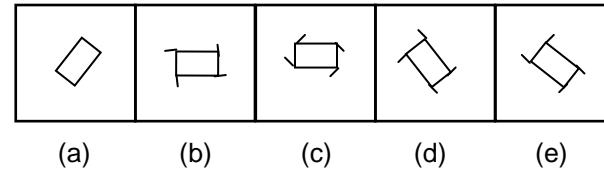
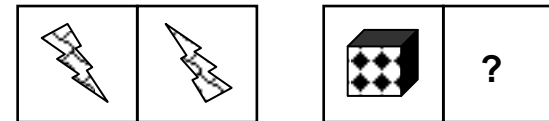
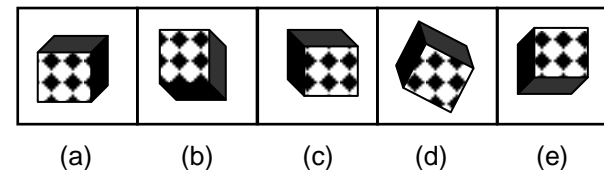
(b)

(c)

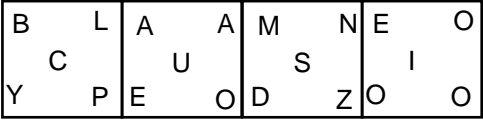
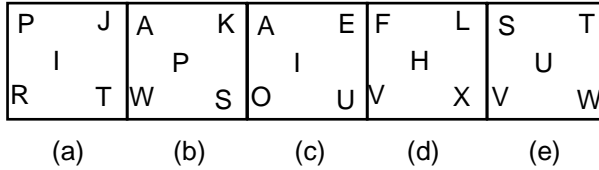
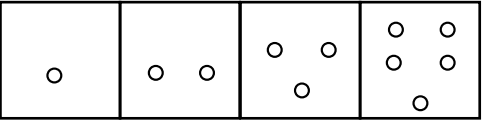
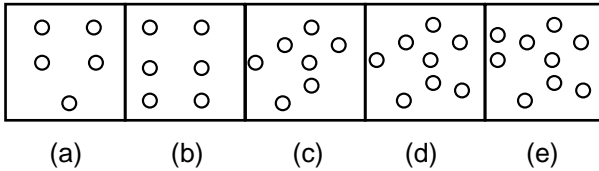
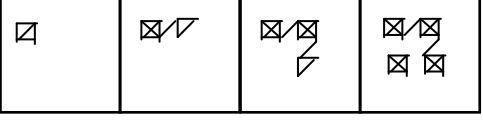
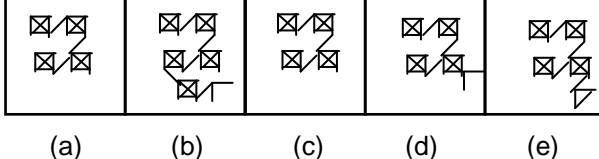
(d)

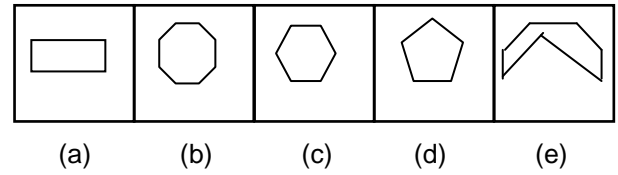
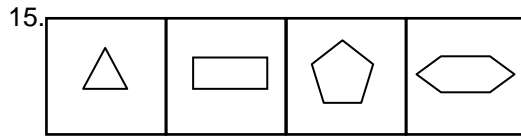
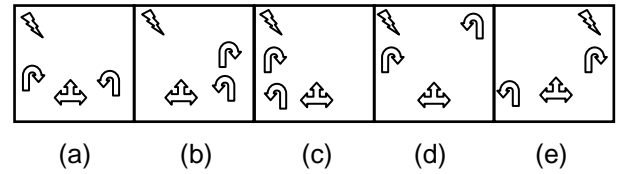
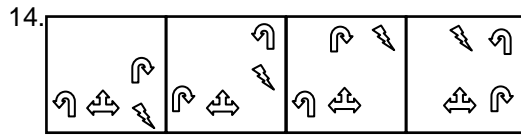
(e)

Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

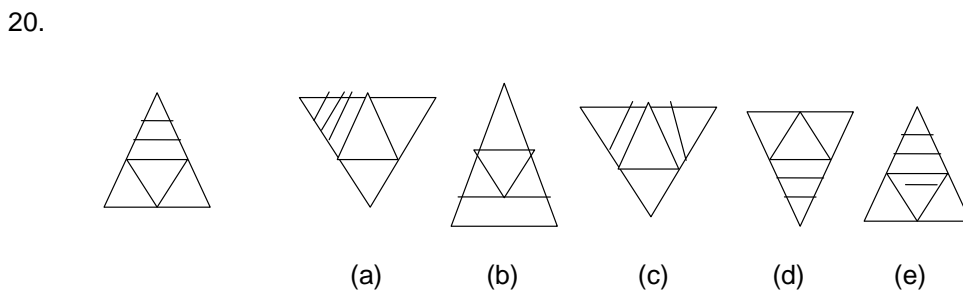
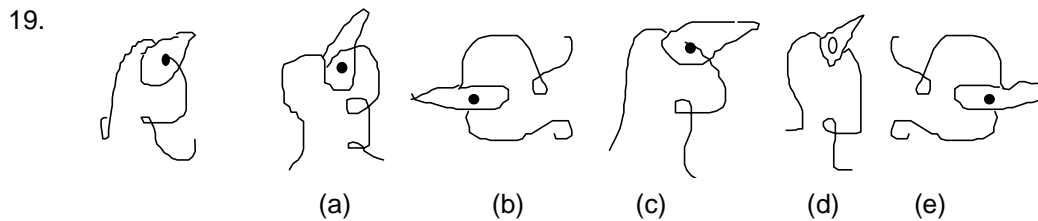
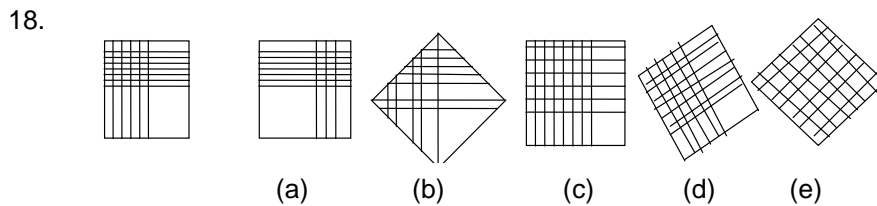
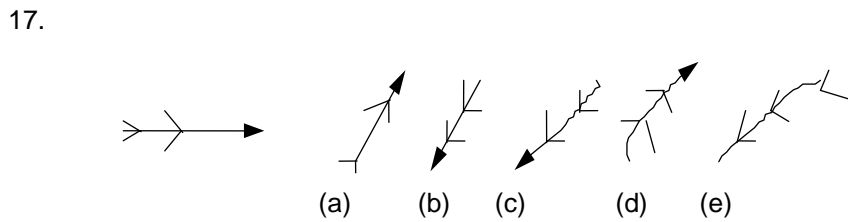
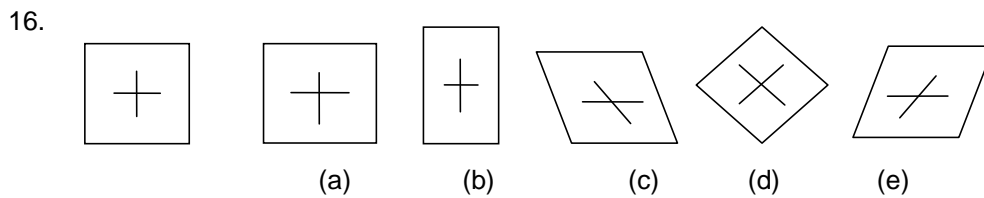
6.  
7.  
8.  
9.  
10.  

Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11.  
12.  
13.  



Directions: For Qns.16-20: In each question below one figure is given on the left hand side (L.H.S.) and five figures on the right hand side (R.H.S.). Identify the figure on the right hand side which is nearest in shape on the figure on left hand side.

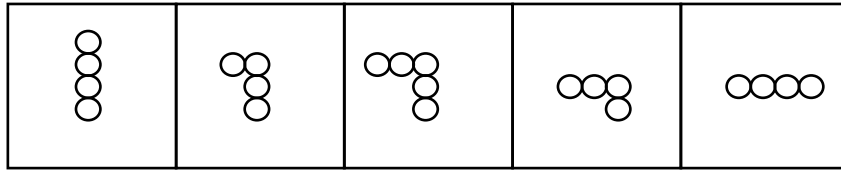




Exercise 9

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

1.



(a)

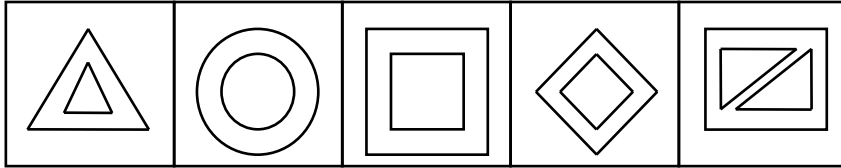
(b)

(c)

(d)

(e)

2.



(a)

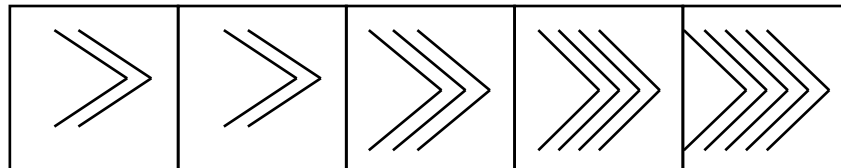
(b)

(c)

(d)

(e)

3.



(a)

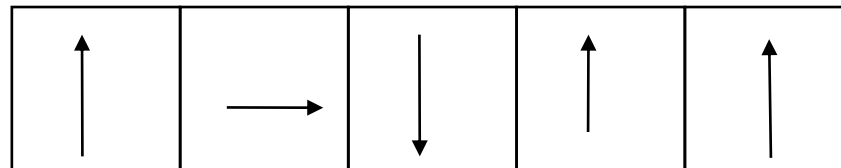
(b)

(c)

(d)

(e)

4.



(a)

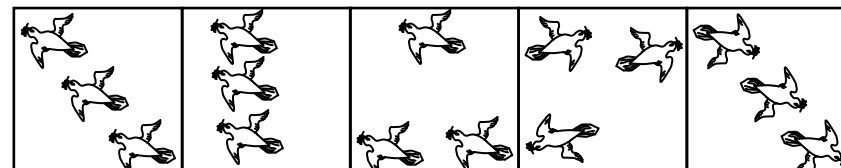
(b)

(c)

(d)

(e)

5.



(a)

(b)

(c)

(d)

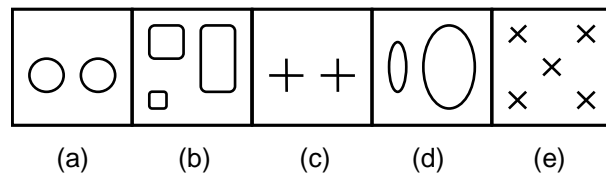
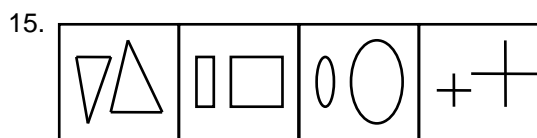
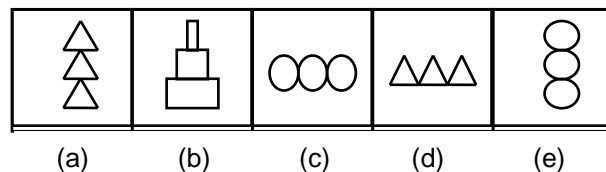
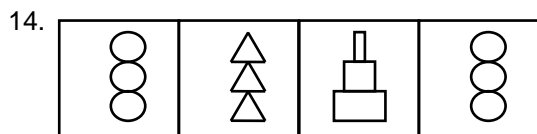
(e)

Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

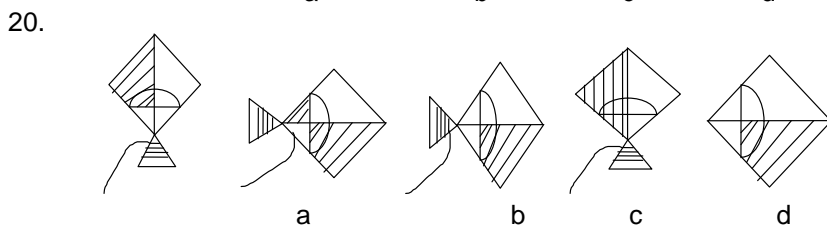
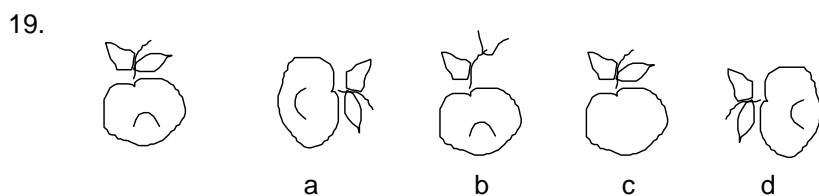
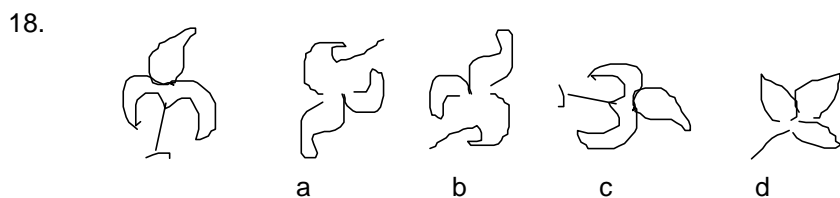
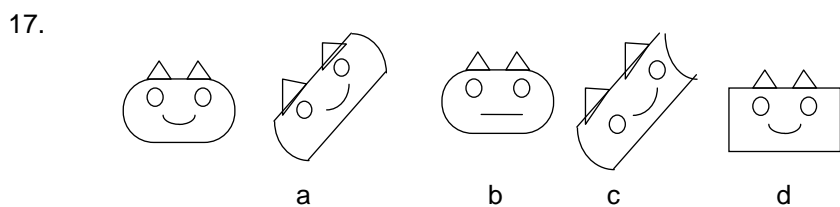
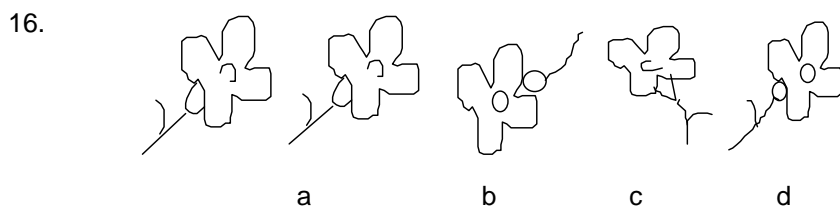
6. (a) (b) (c) (d) (e)
7. (a) (b) (c) (d) (e)
8. (a) (b) (c) (d) (e)
9. (a) (b) (c) (d) (e)
10. (a) (b) (c) (d) (e)

Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11. (a) (b) (c) (d) (e)
12. (a) (b) (c) (d) (e)
13. (a) (b) (c) (d) (e)



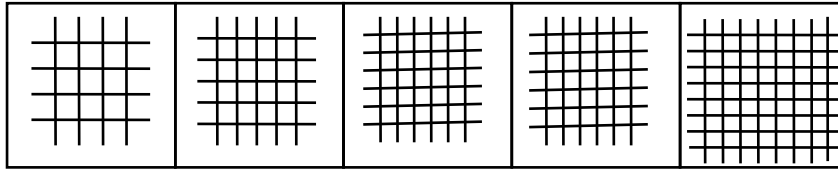
Directions: For Qns.16-20: In each question below one figure is given on the left hand side (L.H.S.) and four figures on the right hand side (R.H.S.). Identify the figure on the right hand side which is nearest in shape on the figure on left had side.



Exercise 10

Directions : In each of the following questions five figures are given. Four of them are similar in some way but one figure is not like the other four. Point out which figure does not belong to the group.

1.



(a)

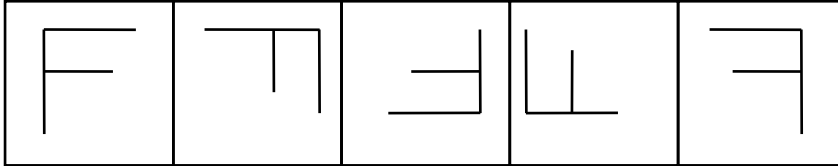
(b)

(c)

(d)

(e)

2.



(a)

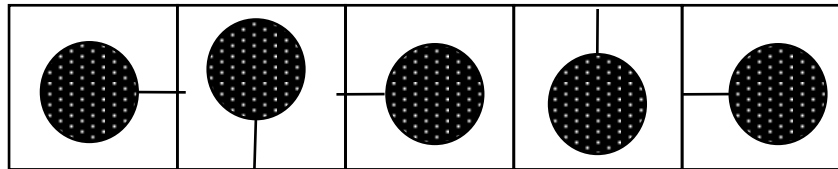
(b)

(c)

(d)

(e)

3.



(a)

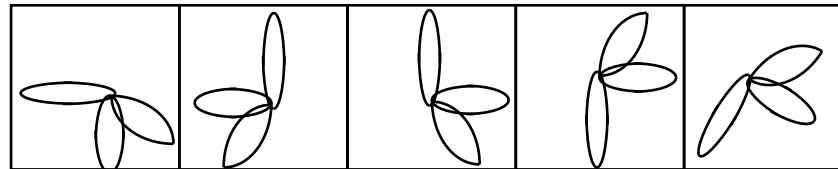
(b)

(c)

(d)

(e)

4.



(a)

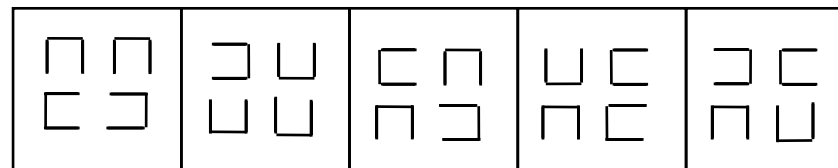
(b)

(c)

(d)

(e)

5.



(a)

(b)

(c)

(d)

(e)

Directions : In the following questions there are two sets of figures - the problem figures and the answer figures. The problem figures are presented in two units. The first unit contains two figures and the second unit one figure and a question mark. You are to find out which one of the answer figures marked (a) to (e) should be in place of the question mark.

6. (a) (b) (c) (d) (e)

7. (a) (b) (c) (d) (e)

8. (a) (b) (c) (d) (e)

9. (a) (b) (c) (d) (e)

10. (a) (b) (c) (d) (e)

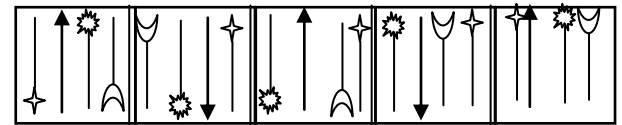
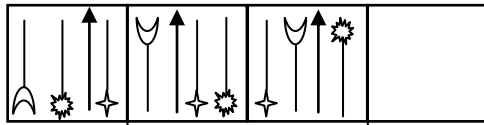
Directions : There are two sets of figures - problem figures and answer figures. The figures in the first row form a series. Pick out one figure from the answer figures in the second row that will continue the series.

11. (a) (b) (c) (d) (e)

12. (a) (b) (c) (d) (e)

13. (a) (b) (c) (d) (e)

14.



(a)

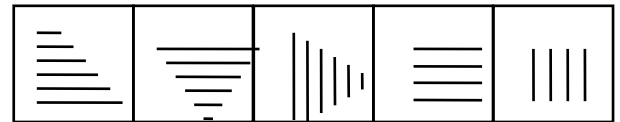
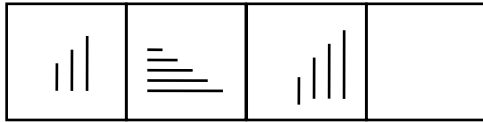
(b)

(c)

(d)

(e)

15.



(a)

(b)

(c)

(d)

(e)



ANSWERS

Exercise 1

1.d	2.c	3.e	4.b	5.b	6. a	7. d	8. e	9. e	10. b
11.b	12. e	13.e	14. b	15. a	16. a	17. a	18. d	19. c	20. e

Exercise 2

1.c	2.d	3.d	4.d	5.a	6. c	7. d	8. b	9. a	10. b
11. b	12. c	13. c	14. b	15. a	16. b	17. c	18. a	19. c	20. d

Exercise 3

1.d	2.d	3.c	4.a	5.b	6. a	7. d	8. c	9. b	10. a
11. c	12. a	13. d	14. b	15. e	16. b	17. d	18. c	19. c	20. c

Exercise 4

1.d	2.d	3.e	4.e	5.b	6. b	7. d	8. b	9. b	10. e
11. b	12. a	13. c	14. d	15. b	16. c	17. b	18. b	19. d	20. a

Exercise 5

1.b	2.d	3.d	4.e	5.e	6. b	7. a	8. c	9. c	10. d
11. e	12. c	13. c	14. d	15. c	16. b	17. b	18. c	19. e	20. d

Exercise 6

1.c	2.d	3.b	4.d	5.e	6. b	7. a	8. b	9. b	10. b
11. a	12. a	13. e	14. c	15. c	16. c	17. a	18. a	19. e	20. b

Exercise 7

1.e	2.a	3.b	4.c	5.d	6. a	7.d	8. c	9. b	10. c
11. d	12. c	13. a	14. a	15.b	16.a	17.a	18.b	19.c	20.c

Exercise 8

1.e	2.d	3.d	4.c	5.d	6. d	7. d	8. a	9. a	10. e
11. d	12. d	13. d	14. c	15. e	16. a	17. b	18. d	19. c	20. d

Exercise 9

1.c	2.e	3.a	4.d	5.d	6. b	7. e	8. c	9. e	10. b
11. a	12. d	13. b	14. a	15. d	16. a	17. a	18. c	19. d	20. b

Exercise 10

1.d	2.e	3.e	4.c	5.e	6. d	7. d	8. b	9. c	10. b
11. b	12. c	13. a	14. e	15. a					

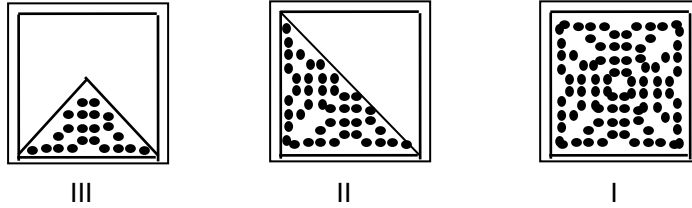
SOLUTIONS

TEST-1

1. The direction of the arrow in option (d) is anti-clockwise, while in all other options it is clockwise. \therefore answer is (d).
2. All the figures except that in option (c) are regular i.e. lengths of all the sides are same. \therefore answer is (c).
3. The black ball is moving in clockwise direction, so it should be on the right side of the figure in option (e). \therefore answer is (e).
4. Shape and direction of figures given in option (b) is different from that of the others. \therefore answer is (b).
5. Direction of figure in option (b) is different from that of the others. \therefore answer is (b).
6. The line in the middle, among the three parallel lines, elongates. \therefore answer is (a).
7. Whole figure rotates 90° . \therefore Answer is (d).
8. One backward-inclined line is being eliminated. \therefore Answer is (e).
9. Face on left-hand side rotates 90° anti-clockwise. All other designs remain unchanged. \therefore Answer is (e).
10. The answer figure is a horizontal mirror image of the question figure. \therefore Answer is (b).
11. From question figure 1 to question figure 2, Number of dots is increased by 2.
From question figure 2 to question figure 3, Number of dots is decreased by 1.
From question figure 3 to question figure 4, Number of dots is again increased by 2.
So From question figure 4 to answer figure, Number of dots must decrease by 1.
 \therefore Answer is (b).
12. The triangle in the given figure rotates in the clockwise direction alternately 180° and 90° .
Remaining aspects of all the answer figures are constant. \therefore Answer is (e).
13. In the given series Number of hearts is decreasing. Besides the hearts are alternately white and black. Along with this the number of dots is increasing. They too are alternately black and white. \therefore Answer is (e).
14. From question figure 1 to question figure 2, the two figures at the base of the square interchange their positions. The third figure changes its shape.
From question figure 2 to question figure 3, the two figures on the right hand side of the square interchange their positions. The third figure changes its shape.
From question figure 3 to question figure 4, the two figures at the base of the square interchange their positions. The third figure changes its shape.
Therefore from question figure 4 to the answer figure, the two figures on the right hand side of the square should interchange their positions and the third figure should change its shape.
 \therefore Answer is (b).
15. In the given series 'K' and 'P' move alternately up and down. 'V' moves in the clockwise direction, also changing its shape to 'A' in the fourth figure. 'O' also moves in the clockwise direction, but changes its shape in the second figure. \therefore Answer is (a).

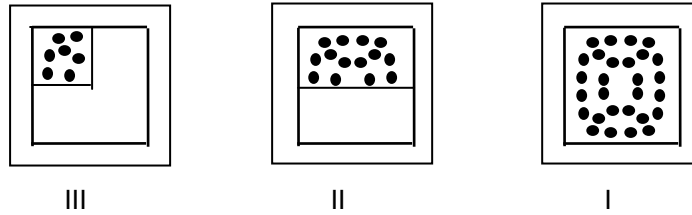
Sol. for Qns. 16-18 : In the solutions of Q.16-18 Figure III represents the paper after two folds. Figure II represents the paper after one fold and Figure I represents the open paper i.e. Answer Figure.

16.



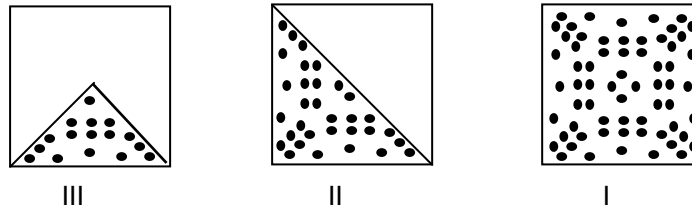
∴ Answer is (a).

17.



∴ Answer is (a).

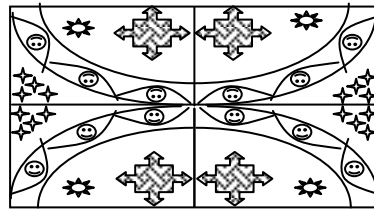
18.



∴ Answer is (d).

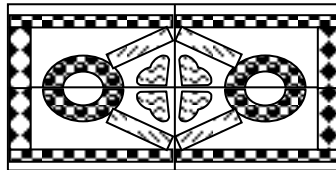
Sol. for Qns. 19-20.

19.



∴ Answer is (c).

20.



∴ Answer is (c).

TEST-2

- All the figures have two lines crossed at 90° , except figure (c). ∴ Answer is (c).
- All the figures contain a right angle except figure (d). ∴ Answer is (d).
- There is a semi-circle in place of the circle in figure (d). ∴ Answer is (d).
- In the given series one curve turns inwards in subsequent figures. Following the pattern option (d) should contain three inwards and one outward curve. ∴ Answer is (d).
- In all the figures except figure (a), the small horizontal line is near the end of the oblique line. ∴ Answer is (a).

6. The designs at the Top and the Bottom of the figure come closer and make the Top design of the answer figure. The designs at the sides of the figure enlarge, change the color and make the middle design of the answer figure. The design at the centre contracts changes the color and makes the Bottom design of the answer figure. \therefore Answer is (c).
7. The number of sides of the polygon increases by one and the number of vertical lines inside the polygon is decreases by one. \therefore Answer is (d).
8. Top left-hand side design enlarges changes color and makes the centre design of the answer figure.
Bottom right-hand side design changes color and makes the top left-hand side design of the answer figure.
The design at the centre contracts changes color and makes the bottom right-hand side design of the answer figure. \therefore Answer is (b).
9. The answer figure is the horizontal mirror image of the question figure. \therefore Answer is (a).
10. From figure (1) to figure (3), the frame of the cube is horizontal mirror image. In figure (3),
The number of dots on front face is same as in that of figure (1).
The number of dots on top face is same as those on the side face in figure (1).
The number of dots on side face is same as those on the top face in figure (1).
Following the same pattern from figure (2) to answer figure option (b) is the right answer.
 \therefore Answer is (b).
11. In the given series the dotted circle is at top right-hand side corner in figure (1), at the centre in figure (2), at bottom left-hand side in figure (3) and again at the centre in figure (4). So it should be at top right-hand side corner in answer figure.
The lined rectangle is at the centre in figure (1), at top left-hand side corner in figure (2), again at the centre in figure (3) and at bottom right-hand side in figure (4). So it should be at centre in answer figure.
The lined circle is at top left-hand side corner in figure (1), it moves to bottom left-hand side corner and changes its shape in figure (2), moves to bottom right-hand side corner and changes its shape in figure (3) and moves to top right-hand side corner in figure (4) with changed shape. So it should be at top right-hand side corner with a new shape in the answer figure. \therefore Answer is (b).
12. In the given series each design comes three times. All the figures are juggling between bottom left-hand side corner, centre and bottom right-hand side corner. \therefore Answer is (c).
13. In the given series the dotted arrow is juggling between bottom right-hand side corner and top left-hand side corner. So it should be at bottom right-hand side corner in answer figure.
The plus is juggling between top right-hand side corner and bottom left-hand side corner. So it should be at top right-hand side corner in answer figure.
For the other three designs follow the path top left-hand side corner - bottom right-hand side corner – centre - top right-hand side corner - bottom left-hand side corner – centre - top left-hand side corner. \therefore Answer is (a).
14. In the given series the 'equal' is moving one side in anti-clockwise direction in subsequent figures, so it should be at the bottom right-hand side corner in the answer figure.
All other designs are moving one side in clockwise direction in subsequent figures and change their shape after every two figures. \therefore Answer is (b).
15. In the given series each design comes four times and then changes its shape. Each new design moves one side anti-clockwise, then two sides and then again one side anti-clockwise, before changing its shape. \therefore Answer is (a).
16. Check the relative orientation of the various numbers. In (a), we see that when **2** is in the front face, **1** has to be in the top face. In (c),(d) & (e), the relative orientation of **3** & **1** is not correct. So, (b) is the correct answer. \therefore Answer is (b).
17. Check the answer choices. If all the figures are identical, then check their relative orientation. So, option (a) is eliminated. In the given figure, there is a circle and a square while the third figure is a semicircle. In (b), if you check the relative orientation, we note that the front face should contain a different figure. Similarly, in option (c), we note that the front face should



contain the original figure. Similarly, in option (e), we note that the top face should contain the semicircle. Finally, we get that (d) is the answer. \therefore Answer is (c).

18. In this problem, look into the relative orientation of the various figures. In (a), we note that the top face should have been the **a**. Similarly, in (c), we see that the relative orientation between the **a** and the **b** is not correct. In (d), the top face should contain the **a**. Similarly, in (e), the side face should contain the original figure. So, we get that (b) is the correct answer.
19. In this problem, in (a), when the plus and the triangle are occupying the top and the side face respectively, then the circle has to be on the bottom face. In (b), when the triangle and the circle are occupying the top and the side face respectively, then the plus has to be on the bottom face. In (c), when the triangle is in the top face, then either the front or the side face should be a plus or a circle. In (d), the front face should have been the plus. \therefore Answer is (c).
20. In this problem, look into the relative orientation of the line and square. In the question figure, the line is pointing towards the square. In the answer options, only (b) and (e) has this property. Further, if we start from the line, move onto the square and then to the heart, then we will be moving anticlockwise but if we follow this order in option (b), we will be moving clockwise. So, (b) is not the answer. \therefore Answer is (c).

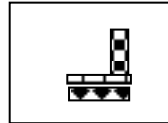
TEST-3

1. In all the figures except that in option (d) the heart is between lines with black and white circles.
2. All the figures except that in (d) are made up of three lines.
3. All the figures except that in (c) are made up of five lines.
4. Number of circles in the series should be 1, 2, 3, 4, and 5. Therefore option (a) should have only one circle.
5. All the figures except the figure in option (b) are identical, when rotated in different directions.
6. The first and second columns are interchanged.
7. In the first question figure, there are two concentric circles within the square. In the second figure one circle is moved to the top left-hand corner, and the number of squares is increased to two. Similarly, the triangles in the second series are reduced to one. This triangle is moved to the top left of the figure and the number of circles is increased to two.
8. In the first question figure, there is a circle between two triangles. In the second figure the circle enlarges to enclose the triangles, which have been enlarged and inverted. In the second series also, there is a circle between two pentagons. The circle will enlarge, and the two inverted pentagons will be enclosed within it.
9. In the first question figure, there is a circle enclosed within a square. In the second figure the square diminishes in size and is placed between the two inverted halves of the circle. In the second series, there are two triangles within a square. The answer figure will consist of a diminished square between two inverted triangles.
10. In the question figure each line and its accompanying symbol moves to the right while simultaneously changing direction. Thus, the triangle moves to the top, the heart moves to the bottom, the semi-circle and the face also move to the bottom. Thus the answer figure should involve a movement of the figures to the right each changing its position as well. The heart should therefore move to the top, the triangle to the bottom, the face to the top and the semi-circle to the bottom.
11. In the question figure the square has been moved 45° . The hearts inside however, do not change their angle. The answer figure will also involve a shift of 45° , without a change in the angle of the faces.
12. 'a' is written as 'z', 'b' is written as 'y', 'c' is written as 'x', 'd' is written as 'w'. Therefore, in the answer, 'e' will be written as 'v', 'f' will be written as 'u', 'g' will be written as 't', and 'h' will be written as 's'.

13. There is a serrated circle within which lies a white ellipse. The following figure shows the circle changed to an ellipse and the ellipse, now black, becomes a circle. Thus in the answer figure, the pentagon should flatten out and the enclosed rectangle should change to a black square.
14. The square flattens out to form a rectangle. Similarly, the cube should also compress.
15. In the question figure, the four lines and their accompanying figures move one place down simultaneously changing their direction. Thus the star moves to the right of the line, also turning black; the face moves to the left of the line also turning black; the semi-circle moves to the right turning white; and the arrow shifts to the left turning black. Similarly, in the answer figure, the heart should move to the right, also turning white; the triangle should move to the left also turning black; the square should move to the right, turning black and the circle should move to the left, turning white.

Sol. for Qns. 16-20.

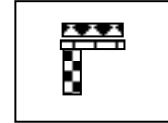
16.



Problem Figure



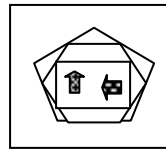
Horizontal mirror image



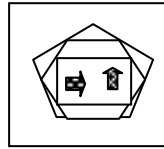
Vertical mirror image

∴ Answer is (b).

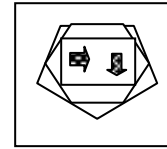
17.



Problem Figure



Horizontal mirror image



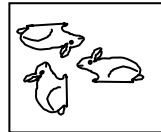
Vertical mirror image

∴ Answer is (d).

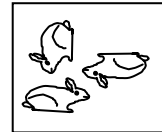
18.



Problem Figure



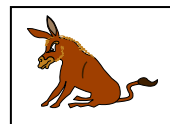
Horizontal mirror image



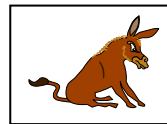
Vertical mirror image

∴ Answer is (c).

19.



Problem Figure



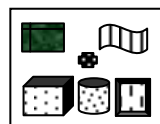
Horizontal mirror image



Vertical mirror image

∴ Answer is (c).

20.



Problem Figure



Horizontal mirror image



Vertical mirror image

∴ Answer is (c).

TEST - 4

1. In all the figures, except option (d), there are three designs that are blackened, whereas in option (d) only two designs are blackened.
2. In all the figures except option (d), there are three circles, whereas in option (d) there are only two circles.
3. In all the figures except option (e), if there is a horizontal line inside the bigger circle then there is a vertical line inside the smaller circle and vice versa, whereas in option (e) the lines inside both the circles are horizontal.

4. In all the figures except option (e), the outer shape in the preceding figure becomes the inner shape in the succeeding figure.
5. Option (b) has two lesser lines than all the other figures.
6. In problem figure 1, two inverted semicircles have been merged to form a circle. Therefore the answer has to be two inverted triangles, which is option (b).
7. In problem figure 1, the circle filled with white dots on a black background, has been divided into three layers. The first layer is blank, the second layer is filled with black dots on a white background, while the third layer is filled with black dots on a white background. Following the same pattern the answer option is (d).
8. In problem figure 1, the number of circles has increased by one in the answer figure Hence the answer option is (b).
9. In problem figure 1, the figure turns clockwise removing the inner line. Following the same pattern the answer option is (b).
10. The two horizontal lines in the first figure have become three vertical figures in the second figure in problem figure 1. Hence answer option (e).
11. The arrow in the first figure of the series shifts half a side in the second figure and then one side in the third figure and so on in a clockwise direction .Hence answer option is (b).
12. The cross in the series moves diagonally while the ball moves in an anti-clockwise direction. Hence answer option is (a).
13. The letter N in the first figure of the given series moves in an anti clockwise direction and then disappears in the third figure, while a new letter D appears and moves in an anti-clockwise direction in the next figure .Following the same pattern the answer option is (c).
14. The Characters μ in the first figure of the given series moves in an anti clockwise direction and new figure appears in place of other figure and μ disappears in the third figure. This trend continues. Hence answer option is (d).
15. The letter P in the first figure of the given series moves in an anti clockwise direction and then disappears in the third figure, while a new letter L appears and moves in an anti-clockwise direction in the next figure .Following the same pattern the answer option is (b).

Sol. for Qns. 16-20.

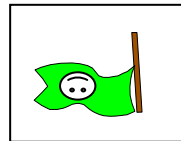
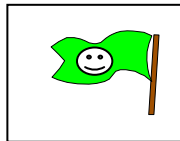
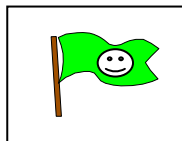
16.



Problem Figure Horizontal mirror image Vertical mirror image

∴ Answer is (c).

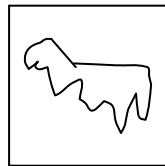
17.



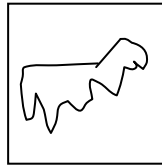
Problem Figure Horizontal mirror image Vertical mirror image

∴ Answer is (b).

18.



Problem Figure



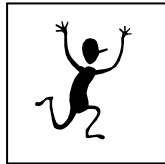
Horizontal mirror image



Vertical mirror image

∴ Answer is (b).

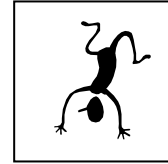
19.



Problem Figure



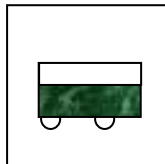
Horizontal mirror image



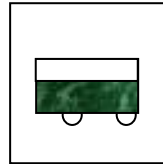
Vertical mirror image

∴ Answer is (d).

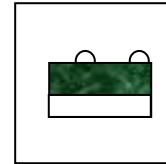
20.



Problem Figure



Horizontal mirror image



Vertical mirror image

∴ Answer is (a).

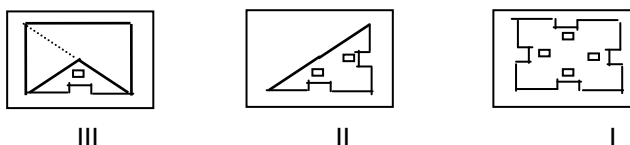
TEST-5

- In all the figures except in figure (b), there is a ball in each part. ∴ Answer is (b).
- All the figures except figure (d) contain the same design rotated at different angles. ∴ Answer is (d).
- Only option (d) contains a line with two ends turned on the same side of the line. ∴ Answer is (d).
- In the given series the number of designs is increased by one and new designs starts from the next position (clockwise) from the position of the last design of the previous figure. So in option (e), the designs should start from the top right hand side corner. ∴ Answer is (e).
- The number of balls in this series follows the mathematical series 1, 2, 4, 7, 11. So there should be 11 balls in option (e). ∴ Answer is (e).
- In the sample figures the mouth of the face is reversed and eyes of the face changes their colors. In the question figure the mouth of the face is horizontal, so in the answer figure only the colors of the eyes should change. ∴ Answer is (b).
- In the sample figures the design inside the square rotates 90° in anti-clockwise direction and moves to the next corner in anti-clockwise direction. Following the same pattern the correct option is (a). ∴ Answer is (a).
- In the sample figures the first and third horizontal line moves to the other side of the vertical line, the second horizontal line is removed and the last line elongates. Following the same pattern the correct option is (c). ∴ Answer is (c).

9. In the sample figures the design takes its vertical mirror image. Following the same pattern the correct option is (c). \therefore Answer is (c).
10. In the sample figures the smaller line moves to the other side of the bigger line. Following the same pattern the correct option is (d). \therefore Answer is (d).
11. In the given series D, C, A, B are missing (among A, B, C and D) in the first, second, third and fourth figures respectively. So in the option figure we should have B, A and C. \therefore Answer is (e).
12. In the given series the design rotates 90° and 45° in clockwise direction alternately. \therefore Answer is (c).
13. In the given series each design comes three times and it juggles between bottom left hand side corner and bottom right hand side corner via centre. So in the answer figure R should come to the centre, kite should come at bottom left hand side corner and a new design should come at bottom right hand side corner. \therefore Answer is (c).
14. In the given series the left-hand side arrow keeps changing its direction and right-hand side arrow keeps changing its color in subsequent figures. So in the answer figure the direction of the left-hand side arrow should be downward and color of the right-hand side arrow should be black. \therefore Answer is (d).
15. In the given series the face rotates at 90° , 180° and 270° in the subsequent figures. So in the answer figure it should rotate 360° or remain same. All other designs move one side in clockwise direction. \therefore Answer is (c).

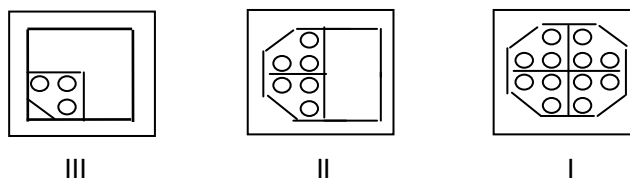
Sol. for Qns. 16-18 : In the solutions of Q.16-18 Figure III represents paper after two folds. Figure II represents paper after one fold and Figure I represent open paper i.e. Answer Figure.

16.



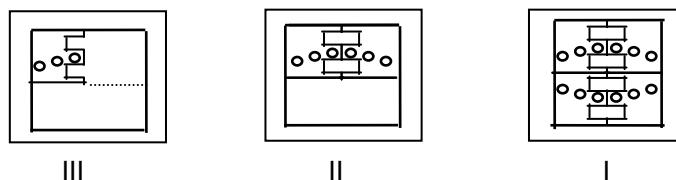
\therefore Answer is (b).

17.



\therefore Answer is (b).

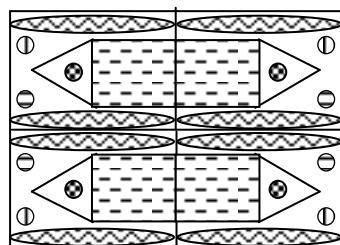
18.



\therefore Answer is (c).

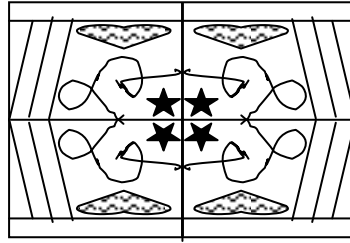
Sol. for Qns.19-20 :

19. The whole pattern is as shown below.



\therefore Answer is (e).

20. The whole pattern is as shown below.



∴ Answer is (d).

TEST - 6

1. All the figures except the figure given in option (c) contain two of the three designs same.
∴ Answer is (c).
2. All the figures except the figure given in option (d) contain the same design rotate at different angles. ∴ Answer is (d).
3. All the figures except the figure given in option (b) contain the even number of triangles.
∴ Answer is (b).
4. All the figures except the figure given in option (d) contain the same design rotate at different angles. ∴ Answer is (d).
5. In the given series the plus juggles between top right-hand side corner and top left-hand side corner. The cube moves one side in anti-clockwise direction. The square juggles between bottom left-hand side corner and top right-hand side corner via centre. The S shaped figure moves one side in clockwise direction. So the correct answer is (e). ∴ Answer is (e).
6. In the sample figures the line on right hand side of the ball changes its shape to curve and then moves to the top of the ball. Following the same pattern the correct answer is (b).
∴ Answer is (b).
7. In the sample figures the square rotates 45° and the smaller design inside the square changes its shape and moves 45° in clockwise direction. So the correct answer is (a). ∴ Answer is (a).
8. In the sample figures the small line moves half a side in clockwise direction. Following the same pattern the correct answer is (b). ∴ Answer is (b).
9. In the sample figures the design rotates 90° . Following the same pattern the correct answer is (b). ∴ Answer is (b).
10. In the sample figures the base of the triangle increases. Following the same pattern the correct answer is (b). ∴ Answer is (b).
11. In the given series the design rotates 90° in clockwise direction and the arrow changes its direction after every alternate figure. Following the same pattern the correct answer is (a).
∴ Answer is (a).
12. In the given series the design rotates 180° and 90° alternately and arrow keeps its direction towards outside the figure and towards inside the figure in alternate figures. Following the same pattern the correct answer is (a). ∴ Answer is (a).
13. In the given series two designs are placed alternately. So the correct answer is (e).
14. In the given series the number of horizontal lines increases by one in the subsequent figures.
∴ Answer is (c).
15. In the given series the design changes its shape in every alternate figure and it rotates 45° in subsequent figures. Following the same pattern the correct answer is (c). ∴ Answer is (c).

Sol. for Qns. 16-20.

16.



Problem Figure



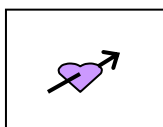
Horizontal mirror image



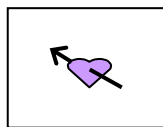
Vertical mirror image

∴ Answer is (c).

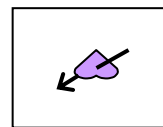
17.



Problem Figure



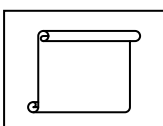
Horizontal mirror image



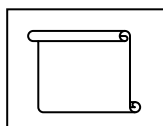
Vertical mirror image

∴ Answer is (a).

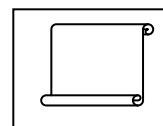
18.



Problem Figure



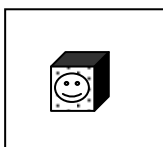
Horizontal mirror image



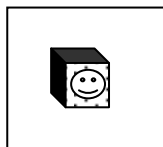
Vertical mirror image

∴ Answer is (a).

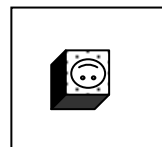
19.



Problem Figure



Horizontal mirror image



Vertical mirror image

∴ Answer is (e).

20.



Problem Figure



Horizontal mirror image



Vertical mirror image

∴ Answer is (b).

TEST-7

- In the given series the design moves one and two blocks alternately. So in option (e) it should be in the bottom block. ∴ Answer is (e).
- Letters given in all the figures except in option(a) make the names of animals as LION, BEAR, DEER and BULL. ∴ Answer is (a).
- All the designs except the design given in option (b) are the same designs rotated at different angles. ∴ Answer is (b).
- In the given series each latter is substituted with the next latter in the alphabet and moves one side in clockwise direction. Option (c) doesn't follow the condition, so it is the odd one. ∴ Answer is (c).
- In all the figures except the figure given in option (d) contains the alternate letters of alphabet. ∴ Answer is (d).

6. In the sample figures the design rotates 90° in clockwise direction and then coupled with filled horizontal image at its left-hand side. \therefore Answer is (a).
7. In the sample figures all the balls moves two sectors in clockwise direction. So the correct option is (d). \therefore Answer is (d).
8. In the sample figures the design rotates 45° and then two of its sides delete. Following the same pattern the correct answer is (c). \therefore Answer is (c).
9. In the sample figures the design rotates 180° . Following the same pattern the correct answer is (b). \therefore Answer is (b).
10. In the sample figures the number of sides increases by one. Following the same pattern the correct answer is (c). \therefore Answer is (c).
11. In the given series the design rotates 90° in clockwise direction in subsequent figures. So the correct answer is (d). \therefore Answer is (d).
12. In the given series the number of horizontal lines increases by one. So the correct answer is (c). \therefore Answer is (c).
13. In the given series two designs are placed alternately. So the correct answer is (a). \therefore Answer is (a).
14. In the given series the number of arrows is increased by one in alternate figures and the arrows rotate 90° in clockwise direction in subsequent figures. So the correct answer is (a). \therefore Answer is (a).
15. In the given series the number of arrows is increased by one and the arrow completes its shape in alternate figures. So the correct answer is (b). \therefore Answer is (b).
16. The number of smallest possible squares is $10 \times 10 = 100$. As there are 10 rows and 10 columns of such squares. Similarly the number of squares of different sizes are 9×9 , 8×8 , 7×7 , 6×6 , 5×5 , 4×4 , 3×3 , 2×2 and 1. So the total number of squares is $100 + 81 + 64 + 49 + 36 + 25 + 16 + 9 + 4 + 1 = 385$. \therefore Answer is (a).
17. The number of smallest possible triangles on one side of the diagonal is 10. As there are 10 rows and 10 columns. Similarly the number of triangles of different sizes on one side of the diagonal are 9, 8, 7, 6, 5, 4, 3, 2 and 1. So the total number of triangles on one side of the diagonal is $100 + 81 + 64 + 49 + 36 + 25 + 16 + 9 + 4 + 1 = 55$ and the total number of triangles is $2 \times 55 = 110$. \therefore Answer is (b).
18. Counting the total number of squares in Figure 2, the correct answer is 25. \therefore Answer is (b).
19. Counting the total number of triangles in Figure 2, the correct answer is 54. \therefore Answer is (c).
20. Counting the total number of circles in Figure 3, the correct answer is 19. \therefore Answer is (c).

TEST-8

1. In the given series, the smaller arrow is moving 90° in clock-wise direction. So in option (e), it should point towards west. \therefore Answer is (e).
2. In the given series, only the figure in option (d) contains a right angle triangle. \therefore Answer is (d).
3. Option (d) should have four concentric circles. \therefore Answer is (d).
4. All the figures except figure (c) contains 8 ellipses. \therefore Answer is (c).
5. All the figures except figure (d) contains four lines. \therefore Answer is (d).



6. In the given analogy the face rotates 180° from question figure to answer figure, but hairs in the answer figure are the vertical mirror image of the hairs in question figure.
7. In the given analogy the whole design rotates at 45° . \therefore Answer is (d).
8. In the given analogy the number of sides in polygon is reduced by one, and then the polygon is filled with horizontal lines one less than the number of sides in the polygon.
9. In the given analogy the rectangle rotates 45° in anti-clockwise direction, but the extended lines remain at the same angle as before. \therefore Answer is (a).
10. In the given analogy the design rotates at 180° . \therefore Answer is (e).
11. In the given series there are five consonants and five vowels alternately. So the next figure must contain five consonants. \therefore Answer is (d).
12. In the given series the number of circles follows the mathematical series 1, 2, 3(2+1), 5(3+2), 8(5+3). So the number of circles in the answer figure should be 8. \therefore Answer is (d).
13. In the given series, the number of lines is increased by 5, 7, 9, 11. So the answer figure should contain $26+11 = 37$ lines. \therefore Answer is (b).
14. In the given series the anti-clockwise arrow moves diagonally. The clockwise arrow moves one and a half side in clockwise direction. The lightning moves half side in anti-clockwise direction. The triple arrow is fixed at its position. So answer should be (c). \therefore Answer is (c).
15. In the given series the number of lines are increased by one in successive figures. So the answer figure should contain seven lines. \therefore Answer is (e).
16. Option (a) is closest to the question figure. \therefore Answer is (a).
17. Option (b) is closest to the question figure, as in this figure there are four small lines attached to a straight arrow. \therefore Answer is (b).
18. Option (d) is closest to the question figure, as in this figure there are five lines crossed at 90° with seven lines. \therefore Answer is (d).
19. Option (c) is closest to the question figure, as in this figure a line touches the eye of the bird and all other things are similar to question figure. \therefore Answer is (c).
20. Option (d) is closest to the question figure, as this figure is the vertical mirror image of the question figure. \therefore Answer is (d).

TEST-9

1. All the figures except figure (c) contain four circles, whereas the figure in option (c) contains five balls. \therefore Answer is (c).
2. All the figures except figure (e) contain two similar concentric designs. \therefore Answer is (e).
3. In the given series the number of arrowheads increases by one in subsequent figures. So the figure in option (a) should have only one arrowhead. \therefore Answer is (a).
4. In the given series the arrow rotates 90° in clockwise direction in subsequent figures. So the arrow in option (d) should point towards left hand side. \therefore Answer is (d).
5. All the figures except figure (d) contain identical birds rotated at different angles. \therefore Answer is (d).

6. In the sample figures the design rotates at 90^0 in clockwise direction. Following the same pattern the correct answer is option (b). \therefore Answer is (b).
7. In the sample figures the design rotates 90^0 anti-clockwise, the straight line slips towards left and then the small sign changes its shape as well as its position. Following the same pattern the correct answer is option (e). \therefore Answer is (e).
8. In the sample figures the designs at upper and lower sectors rotate 90^0 anti-clockwise and interchange their positions. The designs at left and right sectors rotate 90^0 clockwise and interchange their positions. Following the same pattern the correct answer is option (c). \therefore Answer is (c).
9. In the sample figures the designs takes its vertical mirror image. Following the same pattern the correct answer is option (e). \therefore Answer is (e).
10. In the sample figures the design rotates 90^0 clockwise and then the number of partitions is reduced by two. Following the same pattern the correct answer is option (b). \therefore Answer is (b).
11. In the given series the design rotates 90^0 in the clockwise direction. So the correct answer is (a). \therefore Answer is (a).
12. In the given series the design rotates 90^0 in the clockwise direction. So the correct answer is (d). \therefore Answer is (d).
13. In the given series two designs appear alternately. So the correct answer is (b). \therefore Answer is (b).
14. In the given series three designs repeat. So the correct answer is (a). \therefore Answer is (a).
15. The series consists of the figures contains two designs similar in shape but of different sizes. So the correct answer is (d). \therefore Answer is (d).
16. The design given in option (a) is most similar to the sample design. \therefore Answer is (a).
17. The design given in option (a) should be considered as the most similar to the sample design, as in option (b) the mouth is different and in option (c) and option (d), the face is different. \therefore Answer is (a).
18. The design given in option (c) is most similar to the sample design. \therefore Answer is (c).
19. The design given in option (d) should be considered as the most similar to the sample design, as in option (a) the mouth is different, in option (b), one leaf is missing and in option (c) the mouth is missing. \therefore Answer is (d).
20. The design given in option (b) should be considered as the most similar to the sample design, as in options (a) and (c) two quarters instead of one are hatched and in option (d) and option (d), the design is incomplete. \therefore Answer is (b).

TEST-10

1. In the given series the number of horizontal lines as well as the number of vertical lines is increased by one. So there should be seven horizontal and seven vertical lines in the option (d). \therefore Answer is (d).
2. All the figures except the figure in option (e) contains the same design rotated at different angles. \therefore Answer is (e).
3. In the given series the design is rotating 90^0 in subsequent figures. So in option (e) the line should be at the right hand side of the circle. \therefore Answer is (e).



4. All the figures except the figure in option (c) contains the same design rotated at different angles. \therefore Answer is (c).
5. All the figures except the figure in option (e) contain at least two of its designs identical. \therefore Answer is (e).
6. In the sample figures the design at top comes at second from top with the reversed direction. The design at second from top comes at third from top with the reversed direction and changed color. The design at third from top comes at with the reversed direction and changed color. The design at the bottom comes at the top with reversed direction and changed shape. Following the same pattern, the correct option is (d). \therefore Answer is (d).
7. In the sample figures the black ball is moving 90° in anti-clockwise direction and the white ball is moving 135° in clockwise direction. Following the same pattern, the correct option is (d). \therefore Answer is (d).
8. In the sample figures the design at the top right-hand side corner changes its color and comes at bottom right-hand side corner. The design at bottom right-hand side corner turns 90° anti-clockwise and comes at bottom left-hand side corner. The design at bottom left-hand side corner turns 180° and comes at the top right-hand side corner. The design at top left-hand side corner changes its shape and comes at the centre. The design at the centre turns at 45° and comes at the top left-hand side corner. Following the same pattern, the correct option is (b). \therefore Answer is (b).
9. In the sample figures the whole series comes down by half a side. The design at left-hand side comes at the third position from the left. The design second from the left comes at the right. The design third from the left comes at the left. The design at right-hand side comes at the second position from the left. Following the same pattern, the correct option is (c). \therefore Answer is (c).
10. In the sample figures the design at the bottom left-hand side corner turns 180° and comes at the centre. The design at the middle of bottom comes at bottom left-hand side corner. The design at bottom right-hand side corner comes at the middle of bottom. The design at the centre disappears and two new designs added at the centre and at the middle of right-hand side. Following the same pattern, the correct option is (b). \therefore Answer is (b).
11. From figure 1 to figure 2, all the designs turns at 180° . Following the same pattern, the correct option is (b). \therefore Answer is (b).
12. In the given series the ball is moving one side in clock-wise direction. So the correct answer is option (b). \therefore Answer is (c).
13. From figure 1 to figure 2, the number of lines is increased by one and the lines becomes horizontal. So the correct answer is (a). \therefore Answer is (a).
14. In the given series each design changes its direction, then moves to next position and then moves two positions and then repeats the same procedure. Following the same pattern the correct answer is (e). \therefore Answer is (e).
15. In the sample figures the number of lines increases by two and the whole design rotates 90° in clockwise direction. Following the same pattern the correct answer is (a). \therefore Answer is (a).