Book For
Railway Recruitment Board

Grouping of Images

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Q. 1
Group the given figures into three classes using each figure only once.

\[
\begin{array}{ccc}
1 & 2 & 3 \\
4 & 5 & 6 \\
\end{array}
\]

[A] 1, 4 ; 2, 3 ; 5, 6  
[B] 1, 5 ; 2, 6 ; 4, 3  
[C] 1, 6 ; 2, 3 ; 4, 5  
[D] 1, 2 ; 3, 6 ; 4, 5

Answer: Option [A]

Explanation:
(1, 4), (2, 3) and (5, 6) are three different pairs of identical figures.

Q. 2
Group the given figures into three classes using each figure only once.

\[
\begin{array}{ccc}
\text{1} & \text{2} & \text{6} \\
\text{3} & \text{4} & \text{7} \\
\text{5} & \text{8} & \text{9} \\
\end{array}
\]

[A] 1, 5, 8 ; 3, 4, 7 ; 2, 6, 9  
[B] 1, 3, 6 ; 4, 5, 9 ; 2, 7, 8  
[C] 1, 3, 6 ; 2, 5, 7 ; 4, 8, 9  
[D] 6, 7, 8 ; 1, 3, 7 ; 2, 4, 9

Answer: Option [C]

Explanation:
1, 3, 6 contain one complete circle each. 
2, 5, 7 contain a semi-circle each. 
4, 8, 9 contain a triangle each.

Q. 3
Group the given figures into three classes using each figure only once.

\[
\begin{array}{ccc}
\text{1} & \text{2} & \text{3} \\
\text{4} & \text{5} & \text{6} \\
\text{7} & \text{8} & \text{9} \\
\end{array}
\]

[A] 1, 7, 9 ; 2, 3, 6 ; 4, 5, 8  
[B] 1, 2, 9 ; 3, 4, 6 ; 5, 7, 8  
[C] 1, 6, 8 ; 2, 4, 7 ; 3, 5, 9  
[D] 1, 7, 8 ; 2, 9, 3 ; 6, 4, 5

Answer: Option [A]

Explanation:
1, 7, 9 contain two similar elements one inside the other but not touching each other. 
2, 3, 6 contain two similar elements one inside the other and both touching each other. 
4, 5, 8 are divided into equal parts by straight lines emerging from the centre.
Q. 4  
**Group the given figures into three classes using each figure only once.**

![Figure A]

[A] 1,5,9 ; 2,7,8 ; 3,4,6  
[B] 1,5,6 ; 4,7,8 ; 2,3,9  
[C] 2,4,9 ; 6,7,8 ; 1,3,5  
[D] 3,7,8 ; 4,5,9 ; 1,2,6  

**Answer**  Option [C]  

**Explanation:**  
2, 4, 9 have two similar elements intersecting each other.  
6, 7, 8 have two different elements one placed inside the other.  
1, 3, 5 have two different elements intersecting each other.  

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Q. 5  
**Group the given figures into three classes using each figure only once.**

![Figure B]

[A] 3,4,9 ; 5,7,8 ; 1,2,6  
[B] 1,5,6 ; 2,4,8 ; 3,7,9  
[C] 4,6,8 ; 3,5,7 ; 1,2,9  
[D] 1,2,7 ; 3,5,9 ; 4,6,8  

**Answer**  Option [D]  

**Explanation:**  
1, 2, 7 are simple geometrical figures.  
3, 5, 9 have one element placed inside a different element.  
4, 6, 8 have two different elements attached to each other.  

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Q. 6  
**Group the given figures into three classes using each figure only once.**

![Figure C]

[A] 1,3,7 ; 2,4,6 ; 5,8,9  
[B] 1,4,6 ; 2,5,7 ; 3,8,9  
[C] 1,4,8 ; 2,5,6 ; 3,7,9
Q. 7  Group the given figures into three classes using each figure only once.

[A]  1,3,9 ; 2,5,8 ; 4,6,7
[B]  1,5,8 ; 4,6,7 ; 2,3,9
[C]  2,5,9 ; 1,3,8 ; 2,6,7
[D]  1,8,9 ; 4,6,7 ; 2,3,5

Answer  Option [B]

Explanation:
1, 5, 8 are all open figures bisected by a line segment.
4, 6, 7 are all closed figures touching a line segment.
2, 3, 9 are all closed figures intersected by a line.

Q. 8  Group the given figures into three classes using each figure only once.

[A]  7,8,9 ; 2,4,3 ; 1,5,6
[B]  1,3,2 ; 4,5,7 ; 6,8,9
[C]  1,6,8 ; 3,4,7 ; 2,5,9
[D]  1,6,9 ; 3,4,7 ; 2,5,8

Answer  Option [D]

Explanation:
1, 6, 9, are all triangles.
3, 4, 7 are all four-sided figures.
2, 5, 8 are all five-sided figures.

Q. 9  Group the given figures into three classes using each figure only once.
Q. 10

Group the given figures into three classes using each figure only once.

[A] 1, 3, 5 ; 2, 6, 9 ; 4, 7, 8
[B] 2, 3, 4 ; 5, 6, 8 ; 9, 1, 7
[C] 1, 3, 5 ; 2, 6, 8 ; 4, 7, 9
[D] 3, 2, 4 ; 6, 5, 8 ; 7, 9, 1

Answer Option [C]

Explanation:
1. 3, 5 are figures having partially or completely curved boundaries.
2. 2, 6, 8 are all triangles.
3. 4, 7, 9 are all quadrilaterals.

Q. 11

Group the given figures into three classes using each figure only once.

[A] 2, 4, 7 ; 1, 6, 9 ; 3, 5, 8
[B] 1, 3, 5 ; 2, 6, 7 ; 4, 8, 9
[C] 1, 5, 7 ; 2, 3, 6 ; 4, 8, 9
[D] 1, 3, 5 ; 2, 4, 7 ; 6, 8, 9

Answer Option [A]

Explanation:
1. 6, 9 are figures which are half shaded by slanting lines.
2. 2, 4, 7 are all divided into equal parts (either three or four parts) by straight lines and also have a black circle at the centre.
3. 3, 5, 8 have similar designs and have their four corners shaded black.
**Explanation:**
3, 5, 8 have similar designs (four leaves placed close to a small circle and forming a symmetrical design at the centre of the figure).
2, 6, 9 have similar designs (three of the corners of the main figure are shaded black and there is a pattern formed around a '+' sign at the centre of the figure).
1, 4, 7 have similar designs (there are four small circles at the corners of the main figure and there is a wheel shaped element at the centre of the figure).

Q. 12

**Group the given figures into three classes using each figure only once.**

![Diagram](image)

[A] 1, 2, 6; 3, 4, 7; 5
[B] 1, 3; 2, 6; 4, 5, 7
[C] 1, 2, 6, 7; 3; 4, 5
[D] 1, 3; 2, 4, 5; 6, 7

**Answer** Option [D]

**Explanation:**
1, 3 contain a V-shaped element inside a geometrical figure.
2, 4, 5 contain two similar elements, one placed inside the other and touching it.
6, 7 contain geometrical figures which are divided into four equal parts by two mutually perpendicular straight lines.

Q. 13

**Group the given figures into three classes using each figure only once.**

![Diagram](image)

[A] 1, 3, 9; 2, 5, 6; 4, 7, 8
[B] 1, 3, 9; 2, 7, 8; 4, 5, 6
[C] 1, 2, 4; 3, 5, 7; 6, 8, 9
[D] 1, 3, 6; 2, 4, 8; 5, 7, 9

**Answer** Option [A]

**Explanation:**
1, 3, 9 have one element placed inside a different element.
2, 5, 6 contain two mutually perpendicular lines dividing the figure into four parts.
4, 7, 8 have two similar elements (unequal in size) attached to each other.

Q. 14

**Group the given figures into three classes using each figure only once.**

![Diagram](image)
Q. 15
Group the given figures into three classes using each figure only once.

[A] 1,3,6 ; 4,5,8 ; 2,7,9  
[B] 2,3,9 ; 4,5,8 ; 1,6,7  
[C] 1,6,8 ; 3,7,9 ; 2,4,5  
[D] 3,8,9 ; 1,2,7 ; 4,5,6

Answer: Option [C]

Explanation:
1, 6, 8 are figures composed of straight as well as curved lines.
3, 7, 9 are closed figures shaded by oblique line segments.
2, 4, 5 are figures composed of straight lines only.

Q. 16
Group the given figures into three classes using each figure only once.

[A] 1,2,5 ; 3,7,8 ; 4,6,9  
[B] 1,7,2 ; 3,9,6 ; 4,5,8  
[C] 2,3,8 ; 4,6,9 ; 1,5,7  
[D] 5,6,9 ; 3,4,1 ; 2,7,8

Answer: Option [A]

Explanation:
1, 2, 5 are figures that have patterns formed from four lines curved in a concave direction.
3, 7, 8 are figures that have patterns formed from four lines curved in a convex direction.
4, 6, 9 are figures that have patterns formed from these straight lines.

Q. 15
Group the given figures into three classes using each figure only once.

[A] 1,2,5 ; 3,7,8 ; 4,6,9  
[B] 1,7,2 ; 3,9,6 ; 4,5,8  
[C] 2,3,8 ; 4,6,9 ; 1,5,7  
[D] 5,6,9 ; 3,4,1 ; 2,7,8

Answer: Option [B]

Explanation:
1, 5, 7 contain a rectangle with its two diagonals as the outer element and another element (similar or different) placed inside it.
2, 6, 9 contain a triangle with its three medians as the outer element and another element (similar or different) placed inside it.
3, 4, 8 contain a circle with its two mutually perpendicular diameters as the outer element and another element (similar or different) placed inside it.
Q. 17

Group the given figures into three classes using each figure only once.

[A] 1, 2, 4 ; 3, 5, 6 ; 7, 8, 9
[B] 1, 7, 8 ; 3, 5, 6 ; 2, 4, 9
[C] 1, 3, 4 ; 2, 8, 9 ; 5, 6, 7
[D] 1, 7, 8 ; 2, 3, 6 ; 4, 5, 9

Answer Option [B]

Explanation:
1, 7, 8 are all undivided geometrical figures.
3, 5, 6 are geometrical figures divided into two parts.
2, 4, 9 are geometrical figures divided into four parts.

Q. 18

Group the given figures into three classes using each figure only once.

[A] 1, 4, 7 ; 2, 5, 8 ; 3, 6, 9
[B] 1, 4, 7 ; 2, 5, 9 ; 3, 6, 7
[C] 1, 3, 4 ; 2, 5, 8 ; 6, 7, 9
[D] 1, 2, 3 ; 4, 5, 6 ; 7, 8, 9

Answer Option [A]

Explanation:
1, 4, 7 are all (two-dimensional) quadrilaterals.
2, 5, 8 are all three-dimensional figures.
3, 6, 9 are all (two-dimensional) triangles.

Q. 19

Group the given figures into three classes using each figure only once.

[A] 1, 4, 7 ; 2, 5, 9 ; 3, 8, 6
[B] 2, 6, 9 ; 1, 4, 7 ; 5, 8, 3
[C] 1, 4, 7 ; 2, 3, 6 ; 5, 8, 9
[D] 3, 5, 1 ; 4, 7, 8 ; 6, 2, 9

Answer Option [C]
Q. 20  Group the given figures into three classes using each figure only once.

[A] 1,2,3 ; 4,5,6 ; 7,8,9
[B] 1,3,5 ; 2,4,6 ; 7,8,9
[C] 1,5,9 ; 3,6,2 ; 4,7,8
[D] 1,9,7 ; 2,8,5 ; 3,4,6

Answer  Option [A]

Explanation:
1, 2, 3 are figures composed of two straight lines.
4, 5, 6 are figures composed of three straight lines.
7, 8, 9 are figures composed of four straight lines.

Q. 21  Group the given figures into three classes using each figure only once.

[A] 1,5,8 ; 2,6,7 ; 3,4,9
[B] 1,5,7 ; 2,6,8 ; 3,4,5
[C] 1,5,8 ; 2,4,7 ; 3,6,9
[D] 1,5,8 ; 2,6,9 ; 3,4,7

Answer  Option [C]

Explanation:
3, 6, 9 are geometrical figures containing line segments (the number of these line segments is half the number of sides in the figure) parallel to the sides of the figure.
1, 5, 8 consist of a circle and a triangle intersecting it. The triangle is also divided into two equal parts by a straight line.
2, 4, 7 are all funnel shaped figures.

Q. 22  Group the given figures into three classes using each figure only once.
Q. 23  
Group the given figures into three classes using each figure only once.

[A]  1, 2, 3 ; 4, 5, 8 ; 6, 7, 9  
[B]  1, 5, 6 ; 2, 3, 4 ; 7, 8, 9  
[C]  1, 3, 5 ; 2, 4, 8 ; 6, 7, 9  
[D]  1, 4, 7 ; 2, 5, 8 ; 3, 6, 9

Answer  Option [B]  

Explanation:  
1, 5, 6 have two similar elements, one inside the other.  
2, 3, 4 contain straight lines each dividing, the figure into two equal parts.  
7, 8, 9 have one element placed inside a different element.