Direction (1 to 5) : In the number series given below, one number is missing. Each series is followed by five alternative answers (1), (2), (3), (4) and (5). One of them is the right answer. Identify and indicate it as per the "Instructions".

1. 0, 10, 34, 78, ............
   (1) 135 (2) 148 (3) 156 (4) 102 (5) 124
   Ans. (2)
   Sol. By double difference.

2. 7, 31, 211, ..........
   (1) 2311 (2) 2211 (3) 2561 (4) 2781 (5) 2111
   Ans. (2)
   Sol. 7
        2 – 1
        3
        31
        211
        2211
        2 + 3
        6 – 5
        13 + 14

3. 24, 60, 96, 132, ............
   (1) 126 (2) 152 (3) 144 (4) 168 (5) 135
   Ans. (4)
   Sol. Pattern - 4 × 6, 10 × 6, 16 × 6, 22 × 6, 28 × 6
        +6    +6    +6    +6

4. 7, 6, 10, 27, 104, ............
   (1) 520 (2) 420 (3) 515 (4) 525 (5) 456
   Ans. (3)
   Sol. Pattern - ×n – n

5. 1, 5, 15, 34, 65, ............
   (1) 111 (2) 125 (3) 117 (4) 126 (5) 105
   Ans. (1)
   Sol. By double difference.
**Direction (6 to 10)**: In each of the questions, the numbers are arranged in a certain order. In one place, a question mark is given. Find out which one of the answers will replace the question mark.

6. 

<table>
<thead>
<tr>
<th>11</th>
<th>9</th>
<th>15</th>
<th>7</th>
<th>25</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>126</td>
<td>?</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

(1) 184  (2) 210  (3) 241  (4) 425  (5) 506

**Ans. (1)**

**Sol.**

\[(11 + 9) \times (11 - 9) = 40\]
\[(25 + 21) \times (25 - 21) = 184\]

7. 

<table>
<thead>
<tr>
<th>9</th>
<th>17</th>
<th>16</th>
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<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>?</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>17</td>
<td>8</td>
</tr>
</tbody>
</table>

(1) 16  (2) 8  (3) 4  (4) 5  (5) 10

**Ans. (1, 3)**

**Sol.**

\[9 \times 5 = 5 \times 9\] \{Multiply 1 & 2 = 3 & 4\}
\[16 \times 4 = 8 \times 8\]
or
\[9 + 5 = 9 + 5\] \{Add 1 & 3 = 2 & 4\}
\[16 + 8 = 16 + 8\]

8. 

```
   3  8
  4  7  ?
10 19 23 11
  9 12
```

(1) 35  (2) 39  (3) 34  (4) 45  (5) 11

**Ans. (2)**

**Sol.**

\[4^3 - 3^3 = 7\]
\[10^3 - 9^3 = 19\]
\[12^3 - 11^3 = 23\]
\[8^3 - 5^3 = 39\]
9. \[ \begin{array}{ccc} 8 & 28 & 4 \\ 3 & 12 & 8 \\ 9 & 5 & 21 \end{array} \]

(1) 5  (2) -2  (3) -1  (4) 3  (5) 1

**Ans. (3)**

**Sol.**

\[(8 \times 5) - (3 \times 4) = 28\]
\[(5 \times 3) - (-1 \times 6) = 21\]

10. 

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>4A</td>
<td>6C</td>
<td>24B</td>
</tr>
<tr>
<td>5A</td>
<td>?</td>
<td>45C</td>
</tr>
<tr>
<td>9B</td>
<td>4C</td>
<td>36A</td>
</tr>
</tbody>
</table>

(1) 5C  (2) 9B  (3) 7A  (4) 7C  (5) 8C

**Ans. (2)**

**Sol.**

\[24 \div 4 = 6; \quad \frac{36}{9} = 4; \quad \frac{45}{5} = 9\]

So, 9B is the answer.

**Direction (11 to 15)**: Read the following information carefully and answer the questions below.

11. In a certain code LAWN is written as JCUP. How will SLIT be coded in that code?

(1) QNGV  (2) QJGV  (3) QNVG  (4) NJGV  (5) QGVN

**Ans. (1)**

**Sol.** Pattern –2, +2, –2, +2

12. In a certain code LOUD is written as JOSF, then which one of the following English words shall be coded PKQG?

(1) RISE  (2) ROPE  (3) ROAD  (4) RICE  (5) RAIN

**Ans. NA**

**Sol.** Question wrong

13. In a certain code LONG is written as 5123 and GEAR is written as 3748. How is LANE written in that code?

(1) 5427  (2) 5247  (3) 5847  (4) 5237  (5) 5347

**Ans. (1)**

**Sol.** By direct coding

14. If KEDGY is coded as EKDYG, then how will LIGHT be coded?

(1) ILHTG  (2) ILGHT  (3) ILGTH  (4) THGIL  (5) IGLTH

**Ans. (3)**

**Sol.** 1st & 2nd letters interchange, 3rd letter same & 4th & 5th letter interchange.
15. If STRAY is coded as TUSBZ, then how will MOURN be coded?
(1) LPVSO (2) NPVSO (3) NVPSO (4) NPSVO
(5) NSPOV
Ans. (2)
Sol. Pattern - +1, +1, +1, +1, +1
Direction (16 to 20) : Read the following information carefully and answer the questions given below.
16. Count the number of cubes in the given figure.
(1) 167 (2) 168 (3) 169 (4) 170 (5) 171
Ans. (2)
Sol. By Counting
17. The four different positions of a dice are given in the figure. Find the number on the face opposite the face showing 6?
(i) 3 4 5
   (ii) 4 2 5
   (iii) 5 6 3
   (iv) 6 1 3
(1) 1 (2) 2 (3) 4 (4) 5 (5) 3
Ans. (3)
Sol.
18. In a dice $a, b, c$ and $d$ are written on the adjacent faces, in a clockwise order $e$ and $f$ at the top and bottom. When $c$ is at the top, what will be at the bottom?

\[
\begin{array}{c}
\text{e} \\
\text{a} \\
\text{d}
\end{array}
\]

(1) $a$  (2) $b$  (3) $c$  (4) $d$
(5) $e$

**Ans. (1)**

**Sol.** By observation

19. A cube has six different symbols drawn over it six faces. The symbols are dot, circle, triangle, square, cross and arrow. Three different positions of the cube are shown in figures X, Y and Z. Which symbol occurs at the bottom of figure Y?

\[
\begin{array}{c}
(X) \\
(Y) \\
(Z)
\end{array}
\]

(1) Arrow  (2) Triangle  (3) Circle  (4) Dot  (5) Square

**Ans. (3)**

**Sol.**

20. How many squares are there in the given figure?

\[
\begin{array}{c}
\text{X} \\
\text{O} \\
\text{•}
\end{array}
\]

(1) 15  (2) 18  (3) 12  (4) 16  (5) 20

**Ans. NA**

**Sol.** Answer is 14 not given in option

**Direction (21 to 25):** In each of the following questions a letter series is given, in which some letters are missing. The missing letters are given in the proper sequence as one of the alternative. Find the correct alternative.

21. __aba __ ba __ ab
   (1) abba  (2) abbab  (3) babb  (4) bbaba  (5) aaabb

**Ans. (2)**

**Sol.** $a \# b \# a \# b / a \# b \# a \# b / a \# a$
22. \( ab \_ \_ \_ b \_ bbab \_ \)
   (1) abab   (2) abbab   (3) baaab   (4) babba
   (5) ababa
   **Ans. (3)**
   **Sol.** a b \( \overline{a} \) a b a b / a b a a b

23. \( \_ baa \_ aab \_ a \_ a \)
   (1) aabb   (2) aaba   (3) abab   (4) baab
   (5) aabab
   **Ans. (3)**
   **Sol.** a b b a / a a b

24. \( \_ \_ babbba \_ a \_ \_ \)
   (1) ababb   (2) baaab   (3) bbaba   (4) babbb
   (5) abbbb
   **Ans. (5)**
   **Sol.** a b a b b / a b a b a

25. \( \_ op \_ mo \_ n \_ \_ pnmop \_ \)
   (1) mnpmon   (2) mnpmop   (3) mnompn   (4) mnpomn
   (5) mnmmpo
   **Ans. (1)**
   **Sol.** m o p n / m o p n / m o p n / m o p n

**Direction (26 to 30):** Choose odd number questions. Certain numbers are given, out of which all except one are alike in some manner while one is different and this number is to be chosen as the answer.

26. 2468, 2648, 4826, 6482
   (1) 2468   (2) 2648   (3) 4826   (4) 6482
   (5) 2864
   **Ans. (4)**
   **Sol.** Sum of 1st & 4th = Sum of 2nd & 3rd

27. 2, 16, 56, 128
   (1) 2   (2) 16   (3) 56   (4) 128
   (5) 32
   **Ans. (3)**
   **Sol.** All numbers are 2’s power

28. 9611, 7324, 2690, 1754
   (1) 9611   (2) 7324   (3) 2690   (4) 1754
   (5) 1547
   **Ans. (2)**
   **Sol.** Digit sum is 17
29. 7, 5, 31, 57
   (1) 7          (2) 5          (3) 31          (4) 57  
   (5) 65  
**Ans. (4)**  
**Sol.** All are prime number

30. 232, 431, 612, 813  
   (1) 232          (2) 431          (3) 612          (4) 813  
   (5) 831  
**Ans. (4)**  
**Sol.** Digit multiplication is 12  

**Direction (31 to 35):** These questions are based on the diagram given below.  
A) Rectangle represents males.  
B) Triangle represents educated.  
C) Circle represents urban resident.  
D) Square represents civil servant.

31. Who among the following is an educated male who is not an urban resident ?  
   (1) 4          (2) 5          (3) 8          (4) 11  
   (5) 6  
**Ans. (4)**  
**Sol.** By observation

32. Who among the following is neither a civil servant nor educated but is urban and not a male ?  
   (1) 2          (2) 3          (3) 6          (4) 10  
   (5) 7  
**Ans. (2)**  
**Sol.** By observation

33. Who among the following is a female, urban resident and also a civil servant ?  
   (1) 6          (2) 7          (3) 10          (4) 13  
   (5) 8  
**Ans. (3)**  
**Sol.** By observation
34. Who among the following is an educated male who hails from urban area?

(1) 4          (2) 2          (3) 11          (4) 5          (5) 7

**Ans. (1)**  
**Sol.** By observation

35. Who among the following is uneducated and also an urban male?

(1) 2          (2) 3          (3) 11          (4) 12          (5) 7

**Ans. (4)**  
**Sol.** By observation

**Direction (36 to 40):** Answer the following as per the "Instructions".

36. Which one of the following diagrams indicates the best relation between travellers, train and bus.

(1)  
(2)  
(3)  
(4)  
(5)  

**Ans. (3)**  
**Sol.** By observation

37. Which one of the following diagrams indicates the best relationship between profit, dividend and bonus?

(1)  
(2)  
(3)  
(4)  
(5)  

**Ans. (2)**  
**Sol.** By observation

38. Which one of the following diagrams indicates the best relationship between women, mother and engineers?

(1)  
(2)  
(3)  
(4)  
(5)  

**Ans. (1)**  
**Sol.** By observation
39. Which one of the following diagrams indicates the best relationship between factory, product and machinery?

(1) [Diagram]  (2) [Diagram]  (3) [Diagram]  (4) [Diagram]  (5) [Diagram]

Ans. (4)
Sol. By observation

40. Which one of the following diagrams indicates the best relationship between author, lawyer and singer?

(1) [Diagram]  (2) [Diagram]  (3) [Diagram]  (4) [Diagram]  (5) [Diagram]

Ans. (2)
Sol. By observation

Direction (41 to 45): Each of the following questions consists of two sets of figures. Figures A, B, C and D constitute the problem set, while figures 1, 2, 3, 4, and 5 constitute the answer set. Select a suitable figure from the answer figure that would replace the question mark (?).

41. Problem Figures

(A) [Diagram]  (B) [Diagram]  (C) [Diagram]  (D) [Diagram]

Answer Figures

(1) [Diagram]  (2) [Diagram]  (3) [Diagram]  (4) [Diagram]  (5) [Diagram]

Ans. (2)
Sol. By observation

42. Problem Figures

(A) [Diagram]  (B) [Diagram]  (C) [Diagram]  (D) [Diagram]

Answer Figures

(1) [Diagram]  (2) [Diagram]  (3) [Diagram]  (4) [Diagram]  (5) [Diagram]

Ans. (3)
Sol. By observation
43. Problem Figures

Answer Figures

Ans. (3)
Sol. By observation

44. Problem Figures

Answer Figures

Ans. (5)
Sol. By observation

45. Problem Figures

Answer Figures

Ans. (5)
Sol. By observation
Direction (46 to 50) : Each of the following questions consists of the five figures marked A, B, C, D and E called the problem figures followed by five alternatives marked 1, 2, 3, 4 and 5 called the answer figures. Select a figure which will continue the same series established by the five problem figures.

46. Problem Figures

![Problem Figures](image1)

![Answer Figures](image2)

Ans. (1)
Sol. By observation

47. Problem Figures

![Problem Figures](image3)

![Answer Figures](image4)

Ans. (5)
Sol. By observation

48. Problem Figures

![Problem Figures](image5)

![Answer Figures](image6)

Ans. (3)
Sol. By observation

49. Problem Figures

![Problem Figures](image7)

![Answer Figures](image8)

Ans. (3)
Sol. By observation

50. Problem Figures

![Problem Figures](image9)

![Answer Figures](image10)

Ans. (3)
Sol. By observation