PROBLEM SOLVING

Problem Solving Reasoning is a logical reasoning part where candidates will be given various questions and they need to perform various operations such as addition, division, greater than, lesser than, etc are interchanged or substituted to find the correct answer. Almost all the government examinations ask questions on the problem solving reasoning section. Topics included in this section are Inequality, Analogy, Series, Puzzle, and so on.

What is Problem Solving Reasoning?

As mentioned above, Problem Solving Reasoning is a tricy section under logical reasoning which involves solving problems by performing various mathematical operations. Important topics that come under problem solving reasoning are Inequality, <u>Analogy</u>, Series, <u>Puzzle</u>, and so on.

Candidates will be provided with various mathematical signs and symbols. The substitute for these signs will be provided in the question itself. Candidates need to change the signs with the one which is given in the question and then find the answer accordingly. Let us understand each one of them one by one from below.

Types of Problem Solving Reasoning

Let us see the various types of questions that may come in the Problem Solving Reasoning section one by one from below.

1. Analogy

Analogy is a topic of Logical Reasoning where the two things are compared and conclusions are drawn based on their similarities. A question consists of words related to each other based on some logic will be given, and candidates will need to find a word or paid words analogous to those given in the question.

2. Puzzle

Puzzle reasoning is all about analyzing the given data, arranging them in given order, and marking the correct answer. This section requires candidates to analyze the given piece of information, pick the information that is important, and leave out the information that is not required in solving the given set of questions.

3. Number Series

Number Series refers to a sequence of numbers following some pattern. Candidates need to find the missing or wrong number in the provided series. There may be some questions where one of the terms

in the given series will be incorrect, and candidates need to find out that term of the series by identifying the pattern involved in the formation of the series.

4. Inequality

Inequality refers to expressions that contain inequality signs such as <, >, =, etc. To understand the questions based on mathematical inequalities, candidates must know about various signs, which are used in such types of questions. The same is given below:

Symbol	Meaning
A > B	A is greater than B
A < B	A is less than B
A = B	A is equal to B
A ≥ B	A is either greater than or equal to B
A ≤ B	A is either less than or equal to B
A ≠ B	A is either greater than or less than B

How to Solve Question Based on Problem Solving Reasoning – Know all Tips and Tricks

Candidates can find various tips and tricks from below for solving the questions related to the Problem Solving Reasoning section.

Tip # 1: Read the question thoroughly and understand the meaning of all the symbols given in the question to solve problem solving reasoning based questions easily.

Tip # 2: Problem based questions are mathematics related, so it requires a lot of calculation. It is also good to know the basic mathematical theories, formulas and equations to ace this section.

Tip # 3: Practice mock tests and quizzes as much as possible to get well versed with all the topics and their question patterns to score well in the problem solving reasoning section.

Problem Solving Reasoning Sample Questions

Question 1: 50, 45, 40, 35, 30, ?

Solution: The solution of the series is as follows.

50 – **5** = 45

45 – **5** = 40

40 – **5** = 35

35 – **5** = 30

30 **– 5** 25

Hence, the correct answer is 25.

Question 2: 4096, 1024, 256, ?, 16, 4

Solution: The solution of the series is as follows.

4096 / **4** = 1024 1024 / **4** = 256 256 / **4** = 64 64 / **4** = 16 16 / **4** = 4

Hence, the correct answer is 64.

Question 3: In the question, assuming the given statements to be true, find which of the conclusions among given two conclusions is/are definitely true, and then give your answer according to it.

Statement:

 $\mathsf{H} < \mathsf{A} < \mathsf{T} = \mathsf{G} > \mathsf{U} \geq \mathsf{V} \geq \mathsf{B}$

Conclusion:

- 1. T > B
- 2. G > H
- (1) Only conclusion I follow
- (2) Either conclusion I or II follow
- (3) Only conclusion II follow
- (4) None Follows
- (5) Both conclusion I and II follow

Solution: Given Statement: $H < A < T = G > U \ge V \ge B$

- 1. T > B = True (as $T = G > U \ge V \ge B$)
- 2. G > H = True (as H < A < T = G)

If we analyse the given statements, then we get the answer both conclusion I and II follows.

Question 4: In the question, assuming the given statements to be true, find which of the conclusions among given two conclusions is/are definitely true, and then give your answer according to it.

Statement:

 $\mathsf{B} = \mathsf{K} \ge \mathsf{H} = \mathsf{T} > \mathsf{U} \le \mathsf{I}$

Conclusion:

- 1. H > I
- 2. H≤I
- (1) Only conclusion I follow
- (2) Either conclusion I or II follow
- (3) Only conclusion II follow
- (4) None Follows
- (5) Both conclusion I and II follow

Solution: Given Statement: $B = K \ge H = T > U \le I$

- 1. H > I = False (as $H = T > U \le I$)
- 2. $H \le I = False (as H = T > U \le I)$

Hence, Either conclusion I or II follows.

Question 5: In the question, assuming the given statements to be true, find which of the conclusions among given two conclusions is/are definitely true, and then give your answer according to it.

Statement:

- 1. $O < L > P > M \le N \le B$
- 2. $L = K, M \ge R$

Conclusion:

1. K > M

- 2. O = M
- III. R < B
 - 1. R = B
- (1) Only conclusion II follow
- (2) Either conclusion I or III follow
- (3) Only conclusion I and IV follow
- (4) Either conclusion III or IV follow
- (5) Only conclusion I and Either conclusion III or IV follow

Solution: Given Statement:

- 1. $O < L > P > M \le N \le B$
- 2. $L = K, M \ge R$
- 3. K > M = True (as L = K, so L replaced by K then K > P > M)
- 4. O = M = False (as O < L > P > M)

III. R < B = False (as $M \ge R$ then $R \le M \le N \le B$ gives either R < B or R = B)

1. R = B = False (as $M \ge R$ then $R \le M \le N \le B$ gives either R < B or R = B)

Hence, Only conclusion I and Either Conclusion III or IV follow.

Question 6: 67 : 76 :: 42: ?

Solution: 67 + 9 = 76

Similarly, 42 + 9 = 51,

Hence, 51 will replace the question mark.

Question 7: 71 : 42 :: 98 : ?

Solution: 71 – 29 = 42

Similar, 98 – 29 = 69

Hence, 69 will replace the question mark.

Question 8: 5, 7, 21, 55, ?, 215

Solution: The solution of the series is as follows.

 $5 + (2^{2}-2) = 7$ $7 + (4^{2}-2) = 21$ $21 + (6^{2}-2) = 55$ $55 + (8^{2}-2) = 117$ $117 + (10^{2}-2) = 215$

Hence, the correct answer is 117.

Question 9: The position of how many digit(s) in the number 381576 will remain the same after the number is arranged in the ascending order?

Solution: Original number form is: 381576

Ascending order form is: 1 3 5 6 7 8

If we check the number/s whose position will remain the same in both forms then we will see that the position of only number remains same or unchanged which is the number 7.

Hence, the correct answer is One.

Question 10: In the question, assuming the given statements to be true, find which of the conclusions among given two conclusions is/are definitely true, and then give your answer according to it.

Statement:

 $C = T \ge V \ge U$

Conclusion:

- 1. C > U
- 2. T = U
- (1) Only conclusion I follow
- (2) Either conclusion I or II follow
- (3) Only conclusion II follow
- (4) None Follows
- (5) Both conclusion I and II follow

Solution: Given Statement: $C = T \ge V \ge U$

- 1. $C > U = False (as C = T \ge V \ge U)$
- 2. $T = U = False (as T \ge V \ge U)$

As we can see either I or II is true as we can see C = T, Hence it is the correct answer.