1. Letter & Number Series

In **Verbal Reasoning Ability**, **Letter and Number Series** are common types of logical reasoning questions. These questions assess your ability to recognize patterns, sequences, and logical connections between elements.

✅ Letter Series

In a **Letter Series**, a sequence of letters is given, and you are asked to find the missing letter or predict the next term in the series.

Types of Patterns in Letter Series:

1. **Alphabetical Order Pattern**
   - Example: A, B, C, D, ?
   - Answer: E (follows the English alphabet order)
2. **Skipping Letters Pattern**
   - Example: A, C, E, G, ?
   - Answer: I (skipping one letter each time)
3. **Backward Letter Series**
   - Example: Z, X, V, T, ?
   - Answer: R (moving two letters backward)
4. **Repetitive Pattern**
   - Example: A, B, A, B, A, ?
   - Answer: B (repeats alternately)

✅ Number Series

In a **Number Series**, a sequence of numbers is provided, and you need to find the missing number or identify the pattern.

Types of Patterns in Number Series:

1. **Addition or Subtraction Pattern**
   - Example: 2, 4, 6, 8, ?
   - Answer: 10 (adding 2 each time)
2. **Multiplication or Division Pattern**
   - Example: 3, 6, 12, 24, ?
   - Answer: 48 (multiplying by 2 each time)
3. **Squares and Cubes Pattern**
   - Example: 1, 4, 9, 16, ?
   - Answer: 25 (squares of numbers: 1^2, 2^2, 3^2, 4^2, 5^2)
4. **Prime Number Pattern**
   - Example: 2, 3, 5, 7, 11, ?
   - Answer: 13 (next prime number)

🎯 **Tips to Solve Letter and Number Series:**

✅ Observe the pattern carefully.
✅ Identify if the pattern is ascending or descending.
✅ Check for arithmetic operations (Addition, Subtraction, Multiplication, Division).
✅ Check for alternate or repeated patterns.
✅ Use the position of alphabets (A=1, B=2, C=3, etc.) for letter series.

2. Blood Relation

In **Verbal Reasoning Ability**, **Blood Relation** is one of the most important and scoring topics. These questions test your ability to understand and interpret family relationships and connections.

✅ What is Blood Relation?

Blood Relation refers to the connection between family members such as father, mother, son, daughter, brother, sister, uncle, aunt, nephew, niece, grandfather, grandmother, etc.

🎯 Types of Blood Relation Questions:

1. **Direct Relationship-Based Questions**
2. **Coded Blood Relation**
3. **Puzzle-Based Blood Relation**

🚦 Important Family Relations Chart:

Male Relation	Female Relation
Father	Mother
Son	Daughter
Brother	Sister
Grandfather	Grandmother
Uncle (Father's or Mother's Brother)	Aunt (Father's or Mother's Sister)
Nephew (Brother's or Sister's Son)	Niece (Brother's or Sister's Daughter)
Husband	Wife

🔥 How to Approach Blood Relation Questions?

✅ Step 1: Start from the last person mentioned in the question.
✅ Step 2: Use symbols for genders (+ for Male, - for Female).
✅ Step 3: Draw a family tree to understand the relationship.
✅ Step 4: Identify the generation gap (Grandparent → Parent → Child).

🧐 **Example 1:**

Pointing to a girl, Ram said, "She is the daughter of my father's only daughter." How is the girl related to Ram?

🎯 **Solution:**

- Ram's **father's only daughter** → Ram's **sister**
- The **daughter of Ram's sister** → Ram's **niece**

✅ **Answer: Niece**

🧐 **Example 2:**

Pointing to a man, a woman said, "His mother is the only daughter of my mother." What is the man to the woman?

🎯 **Solution:**

- My **mother's only daughter** → **Myself (woman)**
- The **man's mother is me** → The man is my **son**

✅ **Answer: Son**

💡 **Coded Blood Relation Example:**

If A + B means A is the father of B,
A - B means A is the sister of B,
A * B means A is the mother of B,
A / B means A is the brother of B.

Find the relation between P and S in: P + Q * R - S

🎯 **Solution:**

- P + Q → P is the **father** of Q
- Q * R → Q is the **mother** of R
- R - S → R is the **sister** of S

✅ **Answer: P is the grandfather of S**

🌟 **Key Tricks to Solve Blood Relation Quickly:**

1. Identify **generation gap** (Grandparent → Parent → Child).
2. Always move from the **last person mentioned**.
3. Use **gender symbols (+ for Male, - for Female)**.
4. Draw a **family tree diagram** to avoid confusion.

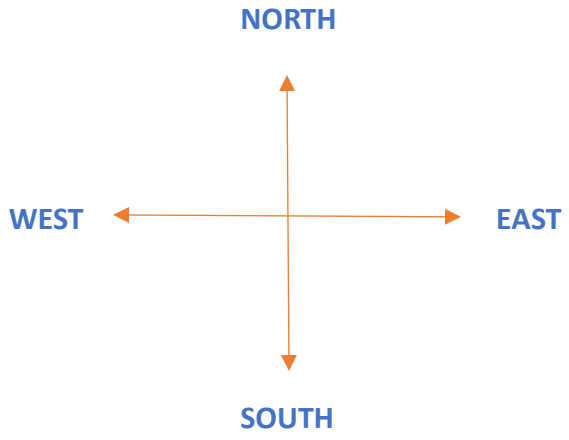
3. Distance - Direction

In **Verbal Reasoning Ability**, **Distance and Direction** is a crucial topic that evaluates your logical thinking and ability to understand directions and distances.

✅ **What is Distance and Direction?**

In this reasoning, a person moves in different directions like North, South, East, and West. You have to find the **final position, direction, or shortest distance** between two points.

🎯 **Basic Directions Chart:**



📝 **Sub-Directions:**

- **North-East (↗)**
- **North-West (↖)**
- **South-East (↘)**
- **South-West (↙)**

🔥 **Key Rules to Remember:**

1. **Right Turn** → Clockwise
2. **Left Turn** → Anti-clockwise
3. **Movement in Opposite Directions Cancels Out**
4. **Use Pythagoras Theorem** for diagonal distance.

🧐 **Example 1:**

A man walks 4 km towards North, then turns right and walks 3 km. Then he turns right and walks 4 km. In which direction is he from his starting point?

🎯 **Solution:**

- 4 km North
- 3 km East
- 4 km South

👉 **Final Answer:** The man is **3 km to the East** of the starting point.

🧐 **Example 2:**

A person walks 6 km South, then turns left and walks 8 km. Then he turns left and walks 6 km. How far is he from the starting point?

🎯 **Solution:**

- 6 km South
- 8 km East

- 6 km North

👉 Both **6 km South** and **6 km North** cancel each other.
👉 The person is exactly **8 km East** from the starting point.

🌟 **Concept of Pythagoras Theorem in Distance:**

🧐 **Example:**

A person moves 3 km East and then 4 km North. What is the shortest distance between the starting and ending point?

🎯 **Solution:**

Use **Pythagoras Theorem:**

Distance=(32+42)Distance = \sqrt{(3^2 + 4^2)}Distance=(32+42) =9+16=25=5 km= \sqrt{9 + 16} = \sqrt{25} = 5 \text{ km}=9+16=25=5 km

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🎯 **Types of Distance and Direction Questions:**

Type of Question	Example
Straight Path Based	Walks North, then turns East
Right/Left Turn-Based	Turns right, turns left
Coded Direction	N = South, S = North
Shadow-Based	Sun rises in the East, shadow is in the West

💡 **Quick Tricks to Solve Fast:**

✅ Move step-by-step and draw the diagram.
✅ Always check the turning direction (Right = Clockwise, Left = Anti-clockwise).
✅ Use Pythagoras Theorem for shortest distance.
✅ Cancel out opposite movements (North-South, East-West).

4. Coding - Decoding

In **Verbal Reasoning Ability**, **Coding-Decoding** is an important topic that tests your **logical thinking and pattern recognition skills**.

✅ What is Coding-Decoding?

In this type of reasoning, **letters, numbers, or symbols** are coded in a particular pattern. You need to **decode the pattern and find the original word or code for another word.**

🎯 Types of Coding-Decoding:

Type of Coding	Example
Letter Coding	APPLE → BQQMF
Number Coding	A = 1, B = 2, C = 3
Symbol Coding	@ = A, # = B, $ = C
Mixed Coding	RAM = 817, SUN = 934
Conditional Coding	If CAT = 24, then DOG = ?

🧐 1. Letter Coding:

Example:
In a certain language, **APPLE is coded as BQQMF.** What will **MANGO** be coded as?

🎯 Solution:

- A → B (+1)
- P → Q (+1)
- P → Q (+1)
- L → M (+1)

- E → F (+1)

✅ **MANGO → NBOHP**

🧐 **2. Number Coding:**

Example:
If **A = 1, B = 2, C = 3... Z = 26**, then find the code for **"DOG."**

🎯 **Solution:**

D = 4
O = 15
G = 7

✅ **DOG = 4 + 15 + 7 = 26**

🧐 **3. Symbol Coding:**

If **'LOVE' is coded as '@#*$'**, what will **'VOTE'** be coded as?

🎯 **Solution:**

L → @
O → #
V → *
E → $

✅ **VOTE → #$**

🧐 **4. Mixed Coding:**

If **RAM = 817, SUN = 934**, find the code for **RUN.**

🎯 **Solution:**

- R → 8
- U → 9
- N → 4

✅ **RUN = 894**

🧐 **5. Conditional Coding:**

If **CAT = 24**, then **DOG = ?**

🎯 **Solution:**

C = 3
A = 1
T = 20

3 + 1 + 20 = 24

Similarly,
D = 4
O = 15
G = 7

4 + 15 + 7 = 26

✅ **DOG = 26**

🌟 **Quick Tricks to Solve Coding-Decoding:**

✅ Check for **+1, -1, reverse order patterns.**
✅ Use **Alphabet Positions (A=1, B=2, C=3, ... Z=26).**
✅ Look for **alternating patterns or mirror images.**
✅ Practice **Coded Letters, Numbers, and Symbols.**

5. Syllogism

In **Verbal Reasoning Ability**, **Syllogism** is a very important and scoring topic. It tests your **logical thinking** and **analytical skills**.

✅ What is Syllogism?

A **Syllogism is a logical argument** that consists of **two or more statements (called premises)** and a **conclusion**.

You need to **analyze the given statements and check whether the conclusion is logically correct or not.**

🎯 Types of Syllogism:

Type of Syllogism	Example
Universal Positive (A-type)	All cats are animals
Universal Negative (E-type)	No dog is a cat
Particular Positive (I-type)	Some birds are parrots
Particular Negative (O-type)	Some apples are not red

🔥 Syllogism Statements Symbols:

Statement	Symbol
All A are B	$A \rightarrow B$
No A is B	$A \times B$
Some A are B	$A \cap B$
Some A are not B	$A \not\subset B$

🚦 Venn Diagram Method for Solving Syllogism:

🎯 Example 1:

Statements:

1. All cats are animals.

2. All animals are mammals.

Conclusion:

- All cats are mammals. ✅ (True)

🧐 **Example 2:**

Statements:

1. Some pens are pencils.
2. All pencils are erasers.

Conclusion:

- Some pens are erasers. ✅ (True)

🌟 **Golden Rules to Solve Syllogism:**

✅ Positive + Positive = Positive
✅ Negative + Negative = Negative
✅ Positive + Negative = Negative
✅ No conclusion from **Some + Some**
✅ No conclusion from **Particular + Particular**

🔥 **Shortcut Trick for Either-Or Condition:**

1. **One statement should be positive, and the other should be negative.**
2. Both statements must have the same subject and predicate.

6. Puzzle & Seating Arrangement

In **Verbal Reasoning Ability**, **Puzzle and Seating Arrangement** is one of the most scoring yet tricky topics. It tests your **logical thinking, observation skills, and analytical ability.**

✅ **What is Puzzle and Seating Arrangement?**

In this reasoning, **people, objects, or numbers** are arranged in a particular order or pattern, and you need to **find the correct position or order**.

🔥 **Types of Puzzle and Seating Arrangement:**

Type of Puzzle	Example
Linear Arrangement	Row-wise sitting arrangement
Circular Arrangement	Sitting in a circle
Square/Rectangular Arrangement	Sitting at corners or sides
Floor-Based Puzzle	People living on different floors
Box Puzzle	Objects placed in different colored boxes
Age Puzzle	Finding the age of people in order

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1. Linear Seating Arrangement:

In a row of 6 people, A is sitting to the left of B, C is sitting to the right of A. Who is sitting between A and C?

🎯 **Solution:**

- A → B → C

✅ **Answer: B is sitting between A and C.**

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2. Circular Seating Arrangement:

Eight people are sitting around a circular table. A is sitting to the immediate right of B. C is sitting opposite to A. Who is sitting to the left of C?

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3. Floor-Based Puzzle:

Six people live on six different floors. A lives on the top floor, B lives on the third floor, and C lives below B. Who lives on the first floor?

🌟 **Key Tricks to Solve Puzzle and Seating Arrangement:**

✅ **Always start with fixed information.**

✅ **Use symbols like (→, ←, ↑, ↓) for left, right, top, bottom.**

- ✅ **Draw a rough diagram.**
- ✅ **Use elimination techniques to remove wrong options.**
- ✅ **Focus on direction: Facing North → Left = Left, Right = Right.**
- ✅ **Facing South → Left = Right, Right = Left.**

Example Puzzle Question:

- 6 people – A, B, C, D, E, F are sitting in a circular arrangement.
- A is sitting to the right of B.
- C is sitting opposite A.
- D is sitting to the left of C.
- E is sitting between B and F.