**INDEX Function in Excel**

**What is INDEX?**

The **INDEX function** in Excel returns the value at a given position in a range or array. It is often used with MATCH to look up values dynamically.

**Syntax:**

=INDEX(array, row\_num, [column\_num])

**Arguments:**

* **array**: The range of cells or array from which to retrieve data.
* **row\_num**: The row number in the array from which to retrieve a value.
* **[column\_num]** *(optional)*: The column number (if the array is more than one column wide).

**Examples:**

**Example 1: Single column**

=INDEX(A2:A6, 3)

This returns the value in the **3rd row** of range A2:A6.

**Example 2: Multi-column array**

=INDEX(A2:C4, 2, 3)

Returns the value in **2nd row** and **3rd column** of A2:C4.

**Key Points:**

* INDEX is faster than alternatives like VLOOKUP for large datasets.
* Use INDEX with **MATCH** for dynamic lookups.
* INDEX can be used to return **entire rows/columns** by omitting row/column arguments (in array formulas).

**Practice Questions on INDEX**

Assume the following sample data (A1:D6):

| **ID** | **Name** | **Department** | **Salary** |
| --- | --- | --- | --- |
| 1 | John | Sales | 45000 |
| 2 | Priya | HR | 50000 |
| 3 | Karan | IT | 55000 |
| 4 | Anita | Finance | 60000 |
| 5 | Ramesh | Sales | 48000 |

**Practice Questions:**

1. Use INDEX to return the name of the 2nd employee.
2. Return the department of the 4th employee using INDEX.
3. Get the salary of the 3rd employee using INDEX.
4. Fetch the ID of the 5th employee.
5. Retrieve the Name of the employee in row 1.
6. Use INDEX to fetch the value at 3rd row, 2nd column.
7. Return the department in the 5th row using INDEX.
8. Find the salary in the 2nd row using INDEX.
9. Get the employee name in the 4th row.
10. Return the value at row 2 and column 4 using INDEX.
11. Extract the department from row 1.
12. Use INDEX to return the 3rd name from the "Name" column.
13. Return the 4th department using INDEX.
14. Get the 2nd salary using INDEX.
15. Use INDEX to return the entire 3rd row (array formula).
16. Retrieve the entire 2nd column using INDEX (array formula).
17. Use INDEX with MATCH to return the salary of "Anita".
18. Use INDEX with MATCH to get the department of "Ramesh".
19. Use INDEX with MATCH to find the name with ID 3.
20. Use INDEX to return a value from A2:D6 at (5,3).
21. Return the Name in the same row where department is IT using INDEX & MATCH.
22. Get Salary of the employee whose name is "Priya" using INDEX & MATCH.
23. Use INDEX to return the 1st value in the Department column.
24. Fetch the last salary using INDEX and COUNTA.
25. Return the department of the employee with the highest salary (use INDEX & MATCH with MAX).

**Solutions**

Assume data is in A2:D6 (with headers in A1:D1):

1. =INDEX(B2:B6,2) → Priya
2. =INDEX(C2:C6,4) → Finance
3. =INDEX(D2:D6,3) → 55000
4. =INDEX(A2:A6,5) → 5
5. =INDEX(B2:B6,1) → John
6. =INDEX(A2:D6,3,2) → Karan
7. =INDEX(C2:C6,5) → Sales
8. =INDEX(D2:D6,2) → 50000
9. =INDEX(B2:B6,4) → Anita
10. =INDEX(A2:D6,2,4) → 50000
11. =INDEX(C2:C6,1) → Sales
12. =INDEX(B2:B6,3) → Karan
13. =INDEX(C2:C6,4) → Finance
14. =INDEX(D2:D6,2) → 50000
15. {=INDEX(A2:D6,3,0)} → Returns: 3, Karan, IT, 55000 *(Array formula)*
16. {=INDEX(A2:D6,0,2)} → Returns the entire "Name" column *(Array formula)*
17. =INDEX(D2:D6,MATCH("Anita",B2:B6,0)) → 60000
18. =INDEX(C2:C6,MATCH("Ramesh",B2:B6,0)) → Sales
19. =INDEX(B2:B6,MATCH(3,A2:A6,0)) → Karan
20. =INDEX(A2:D6,5,3) → Sales
21. =INDEX(B2:B6,MATCH("IT",C2:C6,0)) → Karan
22. =INDEX(D2:D6,MATCH("Priya",B2:B6,0)) → 50000
23. =INDEX(C2:C6,1) → Sales
24. =INDEX(D2:D6,COUNTA(D2:D6)) → 48000
25. =INDEX(C2:C6,MATCH(MAX(D2:D6),D2:D6,0)) → Finance