

CHAPTER-5 | Arithmetic Progressions

QUIZ PART-01

1. What is an Arithmetic Progression (A.P.)?

- A. Constant product
- B. Each term is obtained by adding a fixed number
- C. Square of previous term
- D. Sum of consecutive terms is constant (B)

Explanation: In an A.P., each term is obtained by adding a fixed number to the previous term.

2. What is the common difference in A.P. 3, 6, 9, 12?

- A. 2
- B. 3
- C. 6
- D. 12 (B)

Explanation: The common difference is 3.

3. Which A.P. is decreasing?

- A. 2, 4, 6, 8
- B. 10, 8, 6, 4
- C. 1, 2, 3
- D. 2, 4, 8 (B)

Explanation: The common difference is negative, indicating a decreasing A.P.

4. What is the general form of an A.P.?

- A. $a, a + d, a + 2d, \dots$
- B. $a, a - d, a - 2d, \dots$
- C. $a, a + 2d, \dots$
- D. $a, a \times d, \dots$ (A)

Explanation: The general form of A.P. is $a, a + d, a + 2d, \dots$

5. What is the next term in A.P. 4, 8, 12?

- A. 20
- B. 18
- C. 14
- D. 22 (A)

Explanation: The next term is $16 + 4 = 20$.

6. Which is a finite A.P.?

- A. Even numbers
- B. Natural numbers
- C. Days of the week
- D. Odd numbers (C)

Explanation: The days of the week form a finite A.P.

7. If $a = 5$ and $d = 3$, what are the first four terms?

- A. 5, 8, 11, 14
- B. 5, 7, 9, 11
- C. 5, 10, 15, 20
- D. 5, 6, 7, 8 (A)

Explanation: The terms are 5, 8, 11, 14.

8. Which sequence is infinite A.P.?

- A. 2, 4, 6, ...
- B. 1, 3, 5, ...
- C. 3, 6, 9, ...
- D. All of the above (D)

Explanation: All of these sequences are infinite A.P.s.

9. What happens if a constant is added to each term of an A.P.?

- A. Not an A.P.
- B. Common difference changes
- C. Common difference remains same
- D. Becomes geometric progression (C)

Explanation: Adding a constant doesn't change the common difference.

10. If a, b, c are in A.P., what is the relation?

- A. $a + c = 2b$
- B. $a + b = c$
- C. $a = b = c$
- D. $a - b = c$ (A)

Explanation: In an A.P., $a + c = 2b$.