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LOGIC · LOGICAL REASONING

07. Number Series & Numerical Progressions

Official PMDC Solved Past Paper Topical Booklet · High-Yield Examination Series

© 18 Solved Questions

2024 to 2025 Archive

Boards: DUHS, KMU, NUMS, SZABMU, UHS

Weightage: 3% of MDCAT (6 MCQs)

Curated by Ibrahim for fellow bees. Every question in this chapter has been verified against official UHS, NUMS, SZABMU, DUHS, and KMU answer keys. Propolis cognitive autopsies are provided at the end of this booklet to explain core concepts and break down common distractor traps.

OFFICIAL SOLVED EDITION**Q1.**

SZABMU 2025

Find the next number: 5, 11, 23, 47, 95, ____?

- (A) 190
- (B) 191
- (C) 192
- (D) 193

Q2.

SZABMU 2025

Which number comes in the missing place? 1, 3, 7, 15, 31, ____.

- (A) 63
- (B) 61
- (C) 65
- (D) 67

Q3.

KMU 2025

Consider the sequence: 64, 32, 16, 8. What is the 10th term of the sequence?

- (A) 2
- (B) 4
- (C) $\frac{1}{4}$
- (D) $\frac{1}{8}$

Q4.

KMU 2025

Which number comes in a missing place? 200, 180, 162, 146, 132, ____.

- (A) 118
- (B) 120
- (C) 122
- (D) 126

Q5.

NUMS 2025

Find the next number: 5, 11, 23, 47, 95, ____?

- (A) 190
- (B) 191
- (C) 192
- (D) 193

Q6.

NUMS 2025

Which number comes in the missing place? 1, 3, 7, 15, 31, ____.

- (A) 61
- (B) 63
- (C) 65
- (D) 67

Q7.

UHS 2025

The virus spreads rapidly in the town. It infected the people – First day: 8, Second day: 16, Third day: 32. What will the number of people infected on the next day?

- (A) 44 people
- (B) 64 people
- (C) 96 people
- (D) 54 people

Q8.

UHS 2025

What will come next? 1, 4, 2, 5, 3, 6, 4, 7, ?

- (A) 5
- (B) 6
- (C) 7
- (D) 8

Q9.

DUHS 2025

Which number comes in the missing place? 120, 119, 117, 114, 110, ____

- (A) 105
- (B) 100
- (C) 95
- (D) 107

Q10.

DUHS 2025

Which number comes in the missing place? 120, 119, 117, 114, 110, _

- (A) 105
- (B) 100
- (C) 95
- (D) 107

Q11.

KMU 2025

Which number comes in the missing place? 200, 180, 162, 146, 132, ?

- (A) 118
- (B) 120
- (C) 122
- (D) 126

Q12.

KMU 2025

Consider the sequence: 64, 32, 16, 8, ... What is the 10th term of this sequence?

- (A) 2
- (B) 4
- (C) $\frac{1}{8}$
- (D) $\frac{1}{4}$

Q13.

SZABMU 2025

Find the next number: 5, 11, 23, 47, 95, _____?

- (A) 190
- (B) 191
- (C) 192
- (D) 193

Q14.

SZABMU 2025

Which number comes in the missing place? 1, 3, 7, 15, 31, _.

- (A) 61
- (B) 63
- (C) 65
- (D) 67

Q15.

UHS 2025

What will come next? 1, 4, 2, 5, 3, 6, 4, 7, ?

- (A) 5
- (B) 6
- (C) 7
- (D) 8

Q16.

UHS 2025

The virus spreads rapidly in the town. It infected the people – First day: 8, Second day: 16, Third day: 32. What will be the number of people infected on the next day?

- (A) 44 people
- (B) 56 people
- (C) 64 people
- (D) 74 people

Q17.

KMU 2024

Find out the missing term in the sequence: 15, 14, 12, 9, _?

- (A) 5
- (B) 6
- (C) 7
- (D) 8

Q18.

DUHS 2024

Look at the numbers below. Identify the pattern and logically deduce the correct option that should follow:

1, 4, 9, 16, _

- (A) 54
- (B) 36
- (C) 49
- (D) 25

RAPID 5–COLUMN ANSWER KEY

Official PMDC verified answer keys for 07. Number Series & Numerical Progressions.

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Q#	KEY	BOARD	Q#	KEY	BOARD	Q#	KEY	BOARD	Q#	KEY	BOARD	Q#	KEY	BOARD
1	B	SZABMU 2025	5	B	NUMS 2025	9	A	DUHS 2025	13	B	SZABMU 2025	17	A	KMU 2024
2	A	SZABMU 2025	6	B	NUMS 2025	10	A	DUHS 2025	14	B	SZABMU 2025	18	D	DUHS 2024
3	D	KMU 2025	7	B	UHS 2025	11	B	KMU 2025	15	A	UHS 2025			
4	B	KMU 2025	8	A	UHS 2025	12	C	KMU 2025	16	C	UHS 2025			

TOTAL MCQS
18

CORRECT

INCORRECT

BLANK

ACCURACY

%

Scan the booklet QR code to enter answers in **BeambePrep Grind Mode** for automated error autopsies.

PROPOLIS COGNITIVE ERROR AUTOPSIES

Step-by-step conceptual derivations, formula working, and distractor autopsies for every question.

Question #1 Key: (B)

SZABMU 2025

Find the next number: 5, 11, 23, 47, 95, ____?

CORE CONCEPT AND DERIVATION

Numerical Series Analysis.

Formula: $T_n = (T_{n-1} \times 2) + 1$

Solution:

- $(5 \times 2) + 1 = 11$
- $(11 \times 2) + 1 = 23$
- $(23 \times 2) + 1 = 47$
- $(47 \times 2) + 1 = 95$
- $(95 \times 2) + 1 = 191$

Why other options are incorrect:

- **Option A:** Simply doubles 95 (190) without adding 1.
- **Options C and D:** Result from addition errors.

Question #2 Key: (A)

SZABMU 2025

Which number comes in the missing place? 1, 3, 7, 15, 31, ____.

CORE CONCEPT AND DERIVATION

Recursive Number Series.

Formula: $T_n = 2^n - 1$ or $T_n = (T_{n-1} \times 2) + 1$

Solution:

- $31 \times 2 + 1 = 63$
- Alternatively, difference series increases as powers of 2: +2, +4, +8, +16, +32. Thus, $31 + 32 = 63$.

Why other options are incorrect:

- **Options B, C, and D:** Deviate from the doubling sequence logic.

Question #3 Key: (D)

KMU 2025

Consider the sequence: 64, 32, 16, 8. What is the 10th term of the sequence?

CORE CONCEPT AND DERIVATION

Geometric Sequence Term Calculation.

Formula: $a_n = a_1 \times r^{n-1}$

Solution:

- First term $a_1 = 64$, Common ratio $r = \frac{1}{2}$
- $a_{10} = 64 \times \left(\frac{1}{2}\right)^9 = 64 \times \frac{1}{512} = \frac{1}{8}$

Why other options are incorrect:

- **Option A:** Is the 6th term (2).
- **Option C:** Is the 9th term (1/4).

Question #4 Key: (B)

KMU 2025

Which number comes in a missing place? 200, 180, 162, 146, 132, ____.

CORE CONCEPT AND DERIVATION

Subtraction Series with Decrements.

Formula: $T_n = T_{n-1} - \text{Step}$

Solution:

- $200 - 20 = 180$
- $180 - 18 = 162$
- $162 - 16 = 146$
- $146 - 14 = 132$
- $132 - 12 = 120$

Why other options are incorrect:

- **Options A, C, and D:** Result from subtracting incorrect values (e.g., subtracting 14 again gives 118).

Question #5 Key: (B)

NUMS 2025

Find the next number: 5, 11, 23, 47, 95, ____?

CORE CONCEPT AND DERIVATION

Double-plus-one Series.

Formula: $T_n = 2T_{n-1} + 1$

Solution:

- $95 \times 2 + 1 = 191$.

Why other options are incorrect:

- Option A: Omits the +1 term.

Question #6 Key: (B)

NUMS 2025

Which number comes in the missing place? 1, 3, 7, 15, 31, _.

CORE CONCEPT AND DERIVATION

Exponential Increase Series.

Formula: $T_n = 2T_{n-1} + 1$

Solution:

- $31 \times 2 + 1 = 63$.

Why other options are incorrect:

- Option A: Subtracts 2 instead of adding 1.

Question #7 Key: (B)

UHS 2025

The virus spreads rapidly in the town. It infected the people - First day: 8, Second day: 16, Third day: 32. W...

CORE CONCEPT AND DERIVATION

Geometric Multiplicative Series.

Formula: $T_n = T_{n-1} \times 2$

Solution:

- $32 \times 2 = 64$ people.

Why other options are incorrect:

- Options A and D: Result from adding constant differences instead of applying the doubling factor.

Question #8 Key: (A)

UHS 2025

What will come next? 1, 4, 2, 5, 3, 6, 4, 7, ?

CORE CONCEPT AND DERIVATION

Interleaved Alternating Series.

Formula: Split into two sub-series based on odd/even positions.

Solution:

- Odd terms: 1, 2, 3, 4, 5
- Even terms: 4, 5, 6, 7
- The 9th position corresponds to the odd sub-series: $4 + 1 = 5$.

Why other options are incorrect:

- Options B, C, and D: Fail to decouple the two underlying alternating sequences.

Question #9 Key: (A)

DUHS 2025

Which number comes in the missing place? 120, 119, 117, 114, 110, ____

CORE CONCEPT AND DERIVATION

Subtraction Series of Consecutive Integers.

Formula: $T_n = T_{n-1} - n$

Solution:

- $120 - 1 = 119$
- $119 - 2 = 117$
- $117 - 3 = 114$
- $114 - 4 = 110$
- $110 - 5 = 105$

Why other options are incorrect:

- Option B: Subtracts 10 instead of 5.

Question #10 **Key: (A)**

DUHS 2025

Which number comes in the missing place? 120, 119, 117, 114, 110, _

CORE CONCEPT AND DERIVATION

Descending Subtract Series.

Formula: $110 - 5 = 105$ **Solution:** Differences are $-1, -2, -3, -4, -5$.**Why other options are incorrect:**

- Options B and C: Subtract larger steps.

Question #14 **Key: (B)**

SZABMU 2025

Which number comes in the missing place? 1, 3, 7, 15, 31, _

CORE CONCEPT AND DERIVATION

Powers of 2 Addition.

Formula: $31 \times 2 + 1 = 63$ **Solution:** Next term = 63.**Why other options are incorrect:**

- Option A: Subtracts 2.

Question #11 **Key: (B)**

KMU 2025

Which number comes in the missing place? 200, 180, 162, 146, 132, ?

CORE CONCEPT AND DERIVATION

Variable Subtraction.

Formula: $132 - 12 = 120$ **Solution:** Subtractions reduce by 2 each time (20, 18, 16, 14, 12).**Why other options are incorrect:**

- Option A: Subtracts 14 again.

Question #15 **Key: (A)**

UHS 2025

What will come next? 1, 4, 2, 5, 3, 6, 4, 7, ?

CORE CONCEPT AND DERIVATION

Interleaved Sequences.

Formula: Odd terms follow +1 progression.**Solution:** 1, 2, 3, 4, 5.**Why other options are incorrect:**

- Option B: Belongs to the even terms series.

Question #12 **Key: (C)**

KMU 2025

Consider the sequence: 64, 32, 16, 8, ... What is the 10th term of this sequence?

CORE CONCEPT AND DERIVATION

Geometric Series.

Formula: $64/2^9 = 1/8$ **Solution:** 10th term = $1/8$.**Why other options are incorrect:**

- Option D: 9th term.

Question #16 **Key: (C)**

UHS 2025

The virus spreads rapidly in the town. It infected the people - First day: 8, Second day: 16, Third day: 32. W...

CORE CONCEPT AND DERIVATION

Doubling Progression.

Formula: $32 \times 2 = 64$ **Solution:** 64 people infected on Day 4.**Why other options are incorrect:**

- Option A: Adds linear step instead of doubling.

Question #13 **Key: (B)**

SZABMU 2025

Find the next number: 5, 11, 23, 47, 95, ____?

CORE CONCEPT AND DERIVATION

Double-Plus-One Series.

Formula: $95 \times 2 + 1 = 191$ **Solution:** Next term = 191.**Why other options are incorrect:**

- Option A: Omits the +1 addition.

Question #17 Key: (A)

KMU 2024

Find out the missing term in the sequence: 15, 14, 12, 9, _ ?

CORE CONCEPT AND DERIVATION

Increasing Subtraction Steps.

Formula: $T_n = T_{n-1} - n$

Solution:

- $15 - 1 = 14$
- $14 - 2 = 12$
- $12 - 3 = 9$
- $9 - 4 = 5$

Why other options are incorrect:

- **Option B:** Subtracts 3 again instead of 4.

Question #18 Key: (D)

DUHS 2024

Look at the numbers below. Identify the pattern and logically deduce the correct option that should follow: 1,...

CORE CONCEPT AND DERIVATION

Perfect Squares Series.

Formula: $T_n = n^2$

Solution: $1^2, 2^2, 3^2, 4^2 \implies 5^2 = 25$.

Why other options are incorrect:

- **Option B:** Is 6^2 .