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CLASS 11

Applied Mathematics

Chapterwise PYQs

7 sections | 20 questions | 2022, 2023, 2025

Previous school-examination questions

Selected and rewritten questions are grouped under the current chapters or course topics. Each question shows its examination year. A chapter appears only when a verified question is available.

Choose a chapter or topic

CBSE Applied Mathematics		
Unit 1	Numbers, Quantification and Numerical Applications	3
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UNIT 1

Numbers, Quantification and Numerical Applications

CBSE Applied Mathematics

1. 2022

A batter averages 64 runs. Scoring 22 more runs overall would raise the average to 66. How many innings were played?

2. 2022

A 100 m train travels at 72 km/h. Find the time to pass a 160 m platform.

3. 2022

Convert binary 110011101 to decimal.

UNIT 2

Algebra

CBSE Applied Mathematics

4. 2025

Positive numbers a and b have arithmetic mean twice their geometric mean. Prove $a:b=(2+\sqrt{3}):(2-\sqrt{3})$, taking $a>b$.

5. 2023

Count arrangements of all letters of SUNDAY and those beginning with S.

6. 2023

Count distinct arrangements of ENGINEERING, then those beginning E and ending G, and those with all vowels together.

7. 2023

Monthly savings start at ₹500 and double through month six. Each subsequent month's saving is ₹500 less than the preceding month's. Find the annual total.

8. 2023

Count selections of four cards from 52; separately count selections of one suit, four different suits and three of one colour plus one of the other.

9. 2023

Among 60 people, 21 like A, 26 B, 29 C; overlaps AB=14, AC=12, BC=14 and ABC=8. How many like only C?

10. 2022

An AP's ninth term is zero. Prove its twenty-ninth term equals twice its nineteenth.

11. 2022

A×A has nine elements and includes (−2,0) and (0,2). Find A and list A×A.

12. 2022

Among 20 people, 12 like tea and 15 coffee; everyone likes at least one. Find numbers liking both and each alone.

UNIT 3

Mathematical Reasoning

CBSE Applied Mathematics

13. 2022

Find the smaller angle between clock hands at 4:20 p.m.

UNIT 4

Calculus

CBSE Applied Mathematics

14. 2022

For $f(x)=kx^2-5x+4$, $f'(3)=37$. Find k.

15. 2022

Differentiate $\sqrt{(ax+b)}$ from first principles, treating a and b as constants.

UNIT 5

Probability

CBSE Applied Mathematics

16. 2025

Given P(A)=0.54, P(B)=0.69 and P(A∩B)=0.35, find probabilities of at least one event and neither event.

UNIT 6

Descriptive Statistics

CBSE Applied Mathematics

17. 2025

Find covariance for paired observations X=(3,4,5,6,7) and Y=(8,7,6,5,4).

18. 2025

Find mean deviation about the mean for values 10,30,50,70,90 with frequencies 4,24,28,16,8.

19. 2025

Eight observations have mean 9 and variance 9.25. Six are 6,7,10,12,12,13. Find the remaining two.

UNIT 7

Basics of Financial Mathematics

CBSE Applied Mathematics

20. 2025

An article costs ₹5310 after a 10% discount and 18% GST on the discounted price. Find the marked price.

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