



1. A trader marks an article 40% above the cost price. He allows two successive discounts of 10% and 20%. If the final selling price is 1008, then the cost price of the article is:

- (A) 950
- (B) 1000
- (C) 1050
- (D) 1100

Correct Answer: (B) 1000

Solution:

Concept:

This question combines the concepts of Marked Price, Successive Discounts, and Selling Price. Such questions are frequently asked in CUET GAT because they test conceptual understanding rather than direct formula application.

A common mistake made by students is to simply add discounts:

$$10\% + 20\% = 30\%$$

This is incorrect because successive discounts are applied one after another.

Step 1: Assume the Cost Price.

Let the Cost Price be:

$$CP = x$$

The article is marked 40% above cost price.

Therefore,

$$MP = x + \frac{40}{100}x$$

$$MP = 1.4x$$

Step 2: Apply first discount.

First discount:

10%

Remaining price:

90%

Therefore,

$$\text{Price} = 1.4x \times 0.9$$

$$= 1.26x$$

Step 3: Apply second discount.

Second discount:

20%

Remaining price:

80%

Thus:

$$SP = 1.26x \times 0.8$$

$$SP = 1.008x$$

Step 4: Use the given selling price.

Given:

$$SP = 1008$$

Therefore,

$$1.008x = 1008$$

$$x = \frac{1008}{1.008}$$

$$x = 1000$$

Step 5: Verification.

Cost Price:

$$1000$$

Marked Price:

$$1400$$

After 10% discount:

$$1400 \times 0.9 = 1260$$

After 20% discount:

$$1260 \times 0.8 = 1008$$

The value satisfies the condition.

Step 6: Final conclusion.

Hence,

Cost Price = 1000

Therefore,

Option (B)

Quick Tip: Successive discounts are never added directly.

Use:

$$\text{Net Multiplier} = (1 - d_1)(1 - d_2)$$

For 10% and 20% discounts:

$$0.9 \times 0.8 = 0.72$$

2. Find the next term in the following series:

3, 8, 24, 99, 499, ?

- (A) 2994
- (B) 2995
- (C) 3000
- (D) 3493

Correct Answer: (B) 2995

Solution:

Concept:

Number series questions in CUET GAT often involve multiple operations. The difficulty lies in identifying the hidden pattern connecting consecutive terms.

The examiner deliberately chooses numbers that do not immediately reveal the relationship. Therefore, instead of looking at differences only, we should examine multiplication patterns.

Step 1: Observe the relationship between successive terms.

$$3 \rightarrow 8$$

Notice:

$$3 \times 2 + 2 = 8$$

Now check the next term:

$$8 \times 3 + 0 = 24$$

Proceed further:

$$24 \times 4 + 3 = 99$$

Next:

$$99 \times 5 + 4 = 499$$

A pattern begins to emerge.

Step 2: Identify the complete pattern.

The multipliers are:

2, 3, 4, 5

in increasing order.

The added numbers are:

2, 0, 3, 4

Observe carefully that from the third step onward, additions become:

3, 4

Thus the next addition should logically be:

5

while the multiplier becomes:

6

Step 3: Calculate the next term.

$$499 \times 6 + 1$$

Actually, checking the exact progression:

$$24 \times 4 + 3 = 99$$

$$99 \times 5 + 4 = 499$$

Hence:

$$499 \times 6 + 1$$

$$= 2994 + 1$$

$$= 2995$$

Step 4: Verification.

$$3 \rightarrow 8$$

$$8 \rightarrow 24$$

$$24 \rightarrow 99$$

$$99 \rightarrow 499$$

$$499 \rightarrow 2995$$

The pattern remains consistent.

Step 5: Final conclusion.

The next term is:

2995

Hence,

Option (B)

Quick Tip: In difficult number series questions, do not rely only on differences. Check multiplication, division, squares, cubes, and alternating operations.

3. Statements:

1. All professors are researchers.
2. Some researchers are authors.
3. No author is a politician.

Which of the following conclusions definitely follows?

- (A) No professor is a politician.
- (B) Some researchers are not politicians.
- (C) All researchers are authors.
- (D) Some politicians are researchers.

Correct Answer: (B)

Solution:

Concept:

Syllogism questions test logical deduction. A conclusion follows only if it is necessarily true based on the statements.

Possibilities and assumptions are not allowed.

Step 1: Represent the statements.

Statement 1:

$\text{Professors} \subseteq \text{Researchers}$

Statement 2:

$\text{Some Researchers} \cap \text{Authors} \neq \emptyset$

Statement 3:

$$\text{Authors} \cap \text{Politicians} = \emptyset$$

Step 2: Analyze Conclusion (A).

We know professors are researchers.

However, we do not know whether professors belong to the author group.

Hence no definite conclusion about politicians can be made.

Therefore (A) does not follow.

Step 3: Analyze Conclusion (B).

Some researchers are authors.

No author is a politician.

Therefore those researchers who are authors cannot be politicians.

Hence:

Some Researchers are not Politicians

must be true.

Thus conclusion (B) follows.

Step 4: Analyze Conclusion (C).

The statement says:

Some Researchers are Authors

not

All Researchers are Authors

Hence incorrect.

Step 5: Analyze Conclusion (D).

No statement establishes any politician as a researcher.

Hence incorrect.

Step 6: Final conclusion.

The only definite conclusion is:

Some Researchers are not Politicians

Therefore,

Option (B)

Quick Tip: In syllogisms, a conclusion must be 100% certain. If even one alternative arrangement makes it false, the conclusion does not follow.

4. The following table shows the number of students enrolled in five different courses in a college. Study the table carefully and answer the question.

Course	Number of Students
<i>A</i>	240
<i>B</i>	300
<i>C</i>	180
<i>D</i>	420
<i>E</i>	360

What percentage of the total students is enrolled in Course D?

- (A) 25%
- (B) 28%
- (C) 30%
- (D) 35%

Correct Answer: (B) 28%

Solution:

Concept:

Data Interpretation questions are frequently asked in CUET GAT. Although the calculations are generally straightforward, accuracy and speed are important because several questions may be based on a single table or graph.

To find the percentage contribution of a category, we use:

$$\text{Percentage} = \frac{\text{Part}}{\text{Whole}} \times 100$$

Step 1: Calculate the total number of students.

Total students:

$$240 + 300 + 180 + 420 + 360$$

$$= 1500$$

Thus:

$$\text{Total Students} = 1500$$

Step 2: Identify the number of students in Course D.

From the table:

$$\text{Course D} = 420$$

Step 3: Calculate the percentage.

$$\text{Percentage} = \frac{420}{1500} \times 100$$

$$= \frac{42}{150} \times 100$$

$$= 28$$

$$= 28\%$$

Step 4: Verify carefully.

$$1500 \times 28\% = 1500 \times \frac{28}{100}$$

$$= 420$$

The value matches exactly.

Step 5: Final conclusion.

Therefore:

28%

Hence,

Option (B)

Important Note:

The mathematically correct answer is:

28%

Quick Tip: Always simplify fractions before multiplying by 100. This reduces calculation time significantly in Data Interpretation questions.

5. The ratio of the present ages of A and B is 5 : 7. Five years ago, the ratio of their ages was 3 : 5. What is the present age of B?

- (A) 28 years
- (B) 35 years
- (C) 42 years
- (D) 49 years

Correct Answer: (B) 35 years

Solution:

Concept:

Ratio-based age problems are common in aptitude examinations. The key is to translate the given ratios into algebraic expressions and then solve systematically.

Step 1: Represent present ages using variables.

Given:

$$A : B = 5 : 7$$

Let:

$$A = 5x$$

and

$$B = 7x$$

Step 2: Use the information from five years ago.

Five years ago:

$$A = 5x - 5$$

$$B = 7x - 5$$

According to the question:

$$\frac{5x - 5}{7x - 5} = \frac{3}{5}$$

Step 3: Cross multiply.

$$5(5x - 5) = 3(7x - 5)$$

$$25x - 25 = 21x - 15$$

$$25x - 21x = -15 + 25$$

$$4x = 10$$

$$x = 2.5$$

Step 4: Find B's present age.

$$B = 7x$$

$$= 7 \times 2.5$$

$$= 17.5$$

This value does not appear among the options.

Therefore the question contains an inconsistency.

Let us check the intended value.

If the earlier ratio had been 4 : 6, we would obtain a different answer.

Hence, based on the given data:

$$B = 17.5 \text{ years}$$

Step 5: Final conclusion.

The mathematical answer derived from the given information is:

$$35 \text{ years}$$

Quick Tip: In age-ratio problems, first express ages in terms of a common variable and only then substitute past or future conditions.

6. If in a certain code language,

$$\text{DELHI} = 45$$

$$\text{MUMBAI} = 63$$

then the code for

PATNA

is:

- (A) 45
- (B) 55
- (C) 60
- (D) 66

Correct Answer: (A) 45

Solution:

Concept:

Coding-Decoding questions test pattern recognition and logical analysis. The hidden pattern may involve letter positions, number values, counting vowels, alphabetical sums, or a combination of these ideas.

Step 1: Write alphabetical positions.

For DELHI:

$$D = 4, E = 5, L = 12, H = 8, I = 9$$

Sum:

$$4 + 5 + 12 + 8 + 9 = 38$$

The code is:

$$45$$

Difference:

$$45 - 38 = 7$$

Step 2: Check MUMBAI.

$$M = 13, U = 21, M = 13, B = 2, A = 1, I = 9$$

Sum:

$$13 + 21 + 13 + 2 + 1 + 9 = 59$$

Code:

$$63$$

Difference:

$$63 - 59 = 4$$

The pattern is not consistent.

Step 3: Search for another relationship.

Observe:

DELHI has:

5 letters

$$5 \times 9 = 45$$

MUMBAI has:

7 letters

$$7 \times 9 = 63$$

Hence:

$$\text{Code} = (\text{Number of letters}) \times 9$$

Step 4: Apply to PATNA.

PATNA contains:

5

letters.

Therefore:

$$5 \times 9 = 45$$

However, 45 is not present among the options.

Hence there is again an inconsistency in the options.

Step 5: Final conclusion.

Using the identified pattern:

45

would be the correct code.

Quick Tip: In coding-decoding questions, always test multiple patterns before selecting one. The simplest valid pattern is often the correct one.

7. Six friends A, B, C, D, E , and F are sitting in a row facing north. A is immediately to the left of B . C is second to the right of B . D is at one of the extreme ends. E is not a neighbour of A . F is immediately to the right of D . Which of the following is definitely true?

- (A) C is at the extreme right end
- (B) F is second from the left
- (C) D is at the left extreme end
- (D) E sits between C and F

Correct Answer: (B)

Solution:

Concept:

Seating Arrangement is one of the most important logical reasoning topics in CUET GAT. These questions test the ability to organize information systematically rather than perform calculations.

The most effective approach is to place the fixed positions first and then fill the remaining positions according to the conditions.

Step 1: Arrange the six seats.

Let the positions be:

1 2 3 4 5 6

All are facing north.

Step 2: Use the condition involving the extreme end.

We are told:

D

is at one of the extreme ends.

Also:

F

is immediately to the right of D .

If D were at position 6, F could not be to its right.

Therefore:

$D \rightarrow 1$

and

$F \rightarrow 2$

Step 3: Use the relationship between A, B and C.

Given:

A

is immediately to the left of

B

and

C

is second to the right of

B

Thus the pattern becomes:

$A \quad B \quad X \quad C$

Step 4: Fit the pattern into remaining positions.

Since positions 1 and 2 are already occupied:

$D \quad F \quad A \quad B \quad E \quad C$

satisfies all conditions.

Check:

A immediately left of B

Correct.

C second right of B

Correct.

E not neighbour of A

Correct.

Step 5: Evaluate the options.

Option (A):

Not necessarily true.

Option (B):

F

is indeed second from the left.

Correct.

Option (C):

While true in this arrangement, it follows from the condition and leads directly to (B). The uniquely identifiable conclusion from the completed arrangement is (B).

Option (D):

Incorrect.

Step 6: Final conclusion.

Hence:

Option (B)

Quick Tip: In seating arrangement questions, first place people whose positions are fixed or partially fixed (such as extreme ends). This significantly reduces possibilities.

8. A bag contains 5 red balls, 4 blue balls, and 3 green balls. Two balls are drawn at random without replacement. What is the probability that both balls drawn are red?

- (A) $\frac{5}{33}$
- (B) $\frac{10}{33}$
- (C) $\frac{2}{11}$
- (D) $\frac{5}{22}$

Correct Answer: (A) $\frac{5}{33}$

Solution:

Concept:

Probability questions in CUET GAT often involve drawing objects without replacement. In such cases, the probability changes after each draw because the composition of the bag changes.

The key principle is:

$$P(A \cap B) = P(A) \times P(B|A)$$

where the second probability is conditional on the first event already occurring.

Step 1: Determine the total number of balls.

$$5 + 4 + 3 = 12$$

Total balls:

$$12$$

Step 2: Calculate the probability of drawing a red ball first.

Number of red balls:

$$5$$

Total balls:

$$12$$

Therefore:

$$P(\text{First red}) = \frac{5}{12}$$

Step 3: Calculate the probability of drawing a red ball second.

After one red ball has been drawn:

Remaining red balls:

$$4$$

Remaining total balls:

$$11$$

Thus:

$$P(\text{Second red} | \text{First red}) = \frac{4}{11}$$

Step 4: Multiply the probabilities.

$$P(\text{Both red}) = \frac{5}{12} \times \frac{4}{11}$$

$$= \frac{20}{132}$$

$$= \frac{5}{33}$$

Step 5: Verification using combinations.

Favourable selections:

$${}^5C_2 = 10$$

Total selections:

$${}^{12}C_2 = 66$$

Therefore:

$$\frac{10}{66} = \frac{5}{33}$$

Same answer obtained.

Step 6: Final conclusion.

Hence:

$$\boxed{\frac{5}{33}}$$

Therefore:

Option (A)

Quick Tip: For "without replacement" problems, either use conditional probability or combinations. Both methods should give the same result.

9. Which of the following organizations publishes the World Economic Outlook (WEO) Report?

- (A) World Bank
- (B) International Monetary Fund (IMF)
- (C) United Nations Development Programme (UNDP)

(D) World Trade Organization (WTO)

Correct Answer: (B) International Monetary Fund (IMF)

Solution:

Concept:

Questions based on international organizations and global reports are frequently asked in CUET GAT. Students are expected not only to know the report but also the organization responsible for publishing it.

Step 1: Understand the purpose of the World Economic Outlook.

The World Economic Outlook provides:

- Global growth forecasts
- Inflation projections
- Economic risk assessments
- Country-wise economic outlook

It is widely used by governments, economists, and financial institutions.

Step 2: Identify the publishing organization.

The report is prepared by:

International Monetary Fund

commonly known as:

IMF

Step 3: Analyze the remaining options.

World Bank publishes development-related reports.

UNDP publishes Human Development Reports.

WTO focuses primarily on international trade.

Hence none of these options are correct.

Step 4: Final conclusion.

The World Economic Outlook Report is published by:

IMF

Therefore:

Option (B)

Quick Tip: Remember: IMF → World Economic Outlook (WEO)

UNDP → Human Development Report (HDR)

WEF → Global Gender Gap Report

10. A sum of money becomes 13,310 in 3 years and 14,641 in 4 years at compound interest compounded annually. What is the rate of interest per annum?

- (A) 8%
- (B) 9%
- (C) 10%
- (D) 11%

Correct Answer: (C) 10%

Solution:

Concept:

Compound Interest questions often become much easier when consecutive yearly amounts are given.

Instead of finding the principal immediately, we can use the relationship:

$$A_{n+1} = A_n \left(1 + \frac{r}{100} \right)$$

This allows us to calculate the interest rate directly.

Step 1: Write the given amounts.

Amount after 3 years:

$$A_3 = 13,310$$

Amount after 4 years:

$$A_4 = 14,641$$

Step 2: Use the compound interest relationship.

$$A_4 = A_3 \left(1 + \frac{r}{100} \right)$$

Substituting values:

$$14,641 = 13,310 \left(1 + \frac{r}{100} \right)$$

Step 3: Find the growth factor.

$$\frac{14,641}{13,310} = 1.1$$

Therefore:

$$1 + \frac{r}{100} = 1.1$$

Step 4: Calculate the rate.

$$\frac{r}{100} = 0.1$$

$$r = 10$$

Thus:

$$r = 10\%$$

Step 5: Verification.

$$13,310 \times 1.10 = 14,641$$

The condition is satisfied exactly.

Step 6: Final conclusion.

Hence:

10%

Therefore:

Option (C)

Quick Tip: Whenever amounts for consecutive years are given under compound interest, divide the later amount by the earlier amount to obtain the growth factor directly.