

MH CET LAW Logical & Analytical Reasoning

Sample Paper – 3

Duration: 24 Minutes

Maximum Marks: 30

Instructions

- This paper contains **30** Multiple Choice Questions modelled on the Logical & Analytical Reasoning section of **MH CET LAW**.
- Each correct answer carries **+1 mark**. There is **no negative marking** for incorrect or unattempted answers.
- Only **one** option is correct per question. Choose carefully.
- Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

Q1. What is the next number in the series?

4, 9, 16, 25, 36, ?

- (A) 42
- (B) 45
- (C) 49
- (D) 52

Q2. What is the next term in the series?

A, Z, B, Y, C, X, ?

- (A) V
- (B) W
- (C) E



(D) D

Q3. What is the next number in the series?

100, 99, 97, 94, 90, ?

(A) 85

(B) 84

(C) 83

(D) 86

Q4. If **BRIGHT** is coded as **EULJKW**, how is **SMALL** coded in the same pattern?

(A) VPCOO

(B) VPDOO

(C) WQDPP

(D) UPDOO

Q5. If **STONE** is coded as **19-20-15-14-5** based on alphabetical positions (A=1, B=2, ..., Z=26), what is the code for **NOTE**?

(A) 15-15-20-6

(B) 13-14-19-4

(C) 14-15-20-5

(D) 14-16-21-6

Q6. Pointing to a photograph, Asha says, "His mother is the sister of my mother." Who is the person in the photograph to Asha?

(A) Brother

(B) Uncle



- (C) Son
- (D) Cousin

Q7. Rohan is Suresh's son. Deepa is Suresh's daughter. Meena is Deepa's mother. Anil is Meena's father. What is Rohan's relation to Anil?

- (A) Grandson
- (B) Son
- (C) Nephew
- (D) Brother

Q8. Kavita walks East 5m, turns right and walks 4m, turns right again and walks 5m, then turns left and walks 3m. In which direction is she now moving?

- (A) East
- (B) South
- (C) West
- (D) North

Q9. Ramesh's office is 20 m North of his house. The market is 15 m East of his office. What is the straight-line distance between the market and Ramesh's house?

- (A) 20 m
- (B) 30 m
- (C) 25 m
- (D) 35 m

Q10. Statements:

All lions are cats.

No cat is a dog.

Conclusions:



- I. No lion is a dog.
- II. Some dogs are cats.

Which conclusion(s) follow?

- (A) Only II follows
- (B) Both I and II follow
- (C) Neither I nor II follows
- (D) Only I follows

Q11. Statements:

Some roses are red.
All red things are beautiful.

Conclusions:

- I. Some roses are beautiful.
- II. All roses are beautiful.

Which conclusion(s) follow?

- (A) Only I follows
- (B) Only II follows
- (C) Both I and II follow
- (D) Neither I nor II follows

Q12. Statements:

All students are hardworking.
Some hardworking people succeed.

Conclusions:

- I. Some students succeed.
- II. All hardworking people are students.

Which conclusion(s) follow?

- (A) Both I and II follow
- (B) Neither I nor II follows



- (C) Only I follows
- (D) Only II follows

Q13. Statement: “All that glitters is not gold.”

Conclusions:

- I. Attractive things may not always be valuable.
- II. Gold never glitters.

Which conclusion(s) follow?

- (A) Only II follows
- (B) Neither I nor II follows
- (C) Only I follows
- (D) Both I and II follow

Q14. Statement: “Please bring your identity card when reporting to the examination hall.”

Assumptions:

- I. An identity card is required to enter the examination hall.
- II. Examinees may come without their identity card if not reminded.

Which assumption(s) are implicit?

- (A) Only II is implicit
- (B) Only I is implicit
- (C) Neither I nor II is implicit
- (D) Both I and II are implicit

Q15. Statement: “Should animals be used for medical research?”

Arguments:

- I. Yes — animal research has directly led to many life-saving medical breakthroughs and vaccines.
- II. No — animals do not experience pain or distress.

Which argument is strong?



- (A) Only I is strong
- (B) Only II is strong
- (C) Both are strong
- (D) Neither is strong

Q16. Problem: Many students are failing mathematics at the state board level.

Courses of Action:

- I. Introduce remedial mathematics classes for struggling students.
- II. Remove mathematics from the school curriculum entirely.

Which course(s) of action should be followed?

- (A) Only II should be followed
- (B) Only I should be followed
- (C) Both I and II should be followed
- (D) Neither I nor II should be followed

Q17. Seven people A, B, C, D, E, F and G are sitting in a row facing the same direction. D sits at the centre. A is at one end, with B immediately to A's right and C immediately to B's right. G is at the other end, with E immediately to G's left. F occupies the remaining seat.

Who is sitting immediately to the left of E?

- (A) D
- (B) G
- (C) F
- (D) A

Q18. Five people J, K, L, M and N are seated around a circular table, all facing the centre. K is immediately to the left of J. N is immediately to the right of M. L is not adjacent to K.

Who is sitting immediately to the left of N?



- (A) J
- (B) K
- (C) L
- (D) M

Q19. Five books A, B, C, D and E are compared by their number of pages. D has the most pages. A has more pages than C. E has fewer pages than A. C has more pages than B. B has more pages than E.

Which book has the most pages?

- (A) D
- (B) A
- (C) E
- (D) C

Q20. Doctor : Hospital :: Teacher : ?

- (A) University
- (B) School
- (C) Student
- (D) Book

Q21. BDF : CEG :: HJL : ?

- (A) GIK
- (B) HIJ
- (C) IKM
- (D) JLN

Q22. Which one does **NOT** belong to the group?

Cricket Hockey Tennis Swimming Badminton

- (A) Tennis



- (B) Cricket
- (C) Badminton
- (D) Swimming

Q23. Which number does **NOT** belong to the group?

8 27 64 100 125

- (A) 100
- (B) 27
- (C) 64
- (D) 125

Q24. Observation: “A new factory opened in January. By March, the town’s air quality worsened significantly.”

Which statement most strongly suggests that the factory caused the pollution?

- (A) The factory produces plastic bottles.
- (B) The factory’s chimneys emit visible smoke across the town, and no other major pollution sources appeared between January and March.
- (C) The factory employs 500 workers.
- (D) Another city with a similar factory has clean air.

Q25. Statement: “Of the 200 students who appeared for the school examination, 180 passed.”

Which is the strongest conclusion that can be drawn from this statement?

- (A) The examination was very easy.
- (B) All students studied hard.
- (C) 90% of the students who appeared passed the examination.



(D) The 20 who failed did not study at all.

Q26. Event I: The government announced a subsidy on electric vehicles.

Event II: Sales of electric vehicles in the country doubled within a year.

What is the relationship between the two events?

(A) Event II is the cause of Event I

(B) Both events are independent of each other

(C) Both are effects of a common third cause

(D) Event I is the cause of Event II

Q27. The minute hand of a clock is pointing at 6 and the hour hand is pointing at 9. What is the angle between the two hands?

(A) 90°

(B) 120°

(C) 150°

(D) 180°

Q28. If 'P' stands for ' $\div$ ', 'Q' stands for ' $\times$ ', 'R' stands for '+', and 'S' stands for '-', find the value of:

$$18 P 3 Q 4 R 5 S 2$$

(A) 25

(B) 27

(C) 29

(D) 31

Q29. Question: How old is Priya?

Statement 1: Priya is 5 years younger than her brother.



Statement 2: Her brother is 25 years old.

Which of the following is correct?

- (A) Statement 1 alone is sufficient to answer the question
- (B) Statement 2 alone is sufficient to answer the question
- (C) Both statements together are needed to answer the question
- (D) Neither statement, even together, is sufficient

Q30. Three overlapping circles represent students who “Play Cricket”, “Play Football”, and “Play Badminton”. What does the **non-overlapping region** of the “Plays Football” circle represent?

- (A) Students who play all three sports
- (B) Students who play Football and Cricket only (not Badminton)
- (C) Students who play Football and Badminton only (not Cricket)
- (D) Students who play only Football (and neither Cricket nor Badminton)



Detailed Solutions**Q1.****Solution**

The series is: 4, 9, 16, 25, 36, ?

Each term is the square of a consecutive natural number:

$$2^2 = 4, \quad 3^2 = 9, \quad 4^2 = 16, \quad 5^2 = 25, \quad 6^2 = 36, \quad 7^2 = 49.$$

The next term is $7^2 = 49$.

Answer: (C) [Go Back to Q1](#)

Q2.**Solution**

The series follows two interleaved patterns running simultaneously:

- **Odd positions** (1st, 3rd, 5th, 7th, ...): forward alphabetical — A, B, C, **D**, ...
- **Even positions** (2nd, 4th, 6th, 8th, ...): backward alphabetical — Z, Y, X, W, ...

The 7th term continues the forward (odd-position) pattern: the next letter after C is **D**.

Answer: (D) [Go Back to Q2](#)

Q3.**Solution**

Series: 100, 99, 97, 94, 90, ?

The differences between consecutive terms are increasing in magnitude:

$$100 - 99 = 1, \quad 99 - 97 = 2, \quad 97 - 94 = 3, \quad 94 - 90 = 4, \quad \dots$$

The next difference is 5, so the next term = $90 - 5 = 85$.

Answer: (A) [Go Back to Q3](#)



Q4.

Solution

The coding rule is: each letter is shifted **3 positions forward** in the alphabet.

Verification with BRIGHT:

$$B+3 = E, \quad R+3 = U, \quad I+3 = L, \quad G+3 = J, \quad H+3 = K, \quad T+3 = W \Rightarrow \text{EULJKW}.\checkmark$$

Applying the same rule to SMALL:

$$S+3 = V, \quad M+3 = P, \quad A+3 = D, \quad L+3 = O, \quad L+3 = O \Rightarrow \text{VPDOO}.$$

Answer: (B) [Go Back to Q4](#)

Q5.

Solution

The coding rule assigns each letter its **position in the alphabet** (A=1, B=2, ..., Z=26).

Verification with STONE:

$$S = 19, \quad T = 20, \quad O = 15, \quad N = 14, \quad E = 5 \Rightarrow 19-20-15-14-5.\checkmark$$

Applying the same rule to NOTE:

$$N = 14, \quad O = 15, \quad T = 20, \quad E = 5 \Rightarrow 14-15-20-5.$$

Answer: (C) [Go Back to Q5](#)

Q6.

Solution

Asha says: "His mother is the sister of my mother."

- Asha's mother has a sister.
- That sister is *his* mother.
- So his mother is Asha's **maternal aunt**.
- The son (or child) of one's maternal aunt is one's **cousin**.



The person in the photograph is Asha's **Cousin**.

Answer: (D) [Go Back to Q6](#)

Q7.

Solution

Tracing the relationships step by step:

- Rohan and Deepa are both children of Suresh.
- Meena is Deepa's mother $\Rightarrow$ Meena is Suresh's wife.
- Anil is Meena's father $\Rightarrow$ Anil is Suresh's father-in-law.
- Therefore Anil is the **maternal grandfather** of Rohan (Rohan's mother's father).

Rohan is Anil's **Grandson**.

Answer: (A) [Go Back to Q7](#)

Q8.

Solution

Tracking Kavita's direction at each turn:

1. Starts walking **East**.
2. Turns right $\Rightarrow$ now facing **South**; walks 4 m.
3. Turns right $\Rightarrow$ now facing **West**; walks 5 m.
4. Turns left $\Rightarrow$ now facing **South**; walks 3 m.

(A left turn from West brings one to face South.)

Kavita is currently moving **South**.

Answer: (B) [Go Back to Q8](#)



Q9.

Solution

Place Ramesh's house at the origin. His office is 20 m directly North. The market is 15 m East of the office.

The house, office, and market form a right-angled triangle with legs of 20 m (vertical) and 15 m (horizontal). By the Pythagorean theorem:

$$\text{Distance} = \sqrt{20^2 + 15^2} = \sqrt{400 + 225} = \sqrt{625} = 25 \text{ m.}$$

Answer: (C) [Go Back to Q9](#)

Q10.

Solution

Premises: All lions are cats. No cat is a dog.

Conclusion I — No lion is a dog.

Since every lion is a cat, and no cat is a dog, it follows that no lion can be a dog. *Follows.* ✓

Conclusion II — Some dogs are cats.

The premise "No cat is a dog" equivalently states that no dog is a cat. Conclusion II directly contradicts this. *Does not follow.*

Only Conclusion I follows.

Answer: (D) [Go Back to Q10](#)

Q11.

Solution

Premises: Some roses are red. All red things are beautiful.

Conclusion I — Some roses are beautiful.

Those roses that are red are also beautiful (by the second premise). Since some roses are red, some roses are beautiful. *Follows.* ✓

Conclusion II — All roses are beautiful.

Only *some* roses are red; the remaining roses may or may not be beautiful. We cannot extend the conclusion to all roses. *Does not follow.*

Only Conclusion I follows.

Answer: (A) [Go Back to Q11](#)



Q12.

Solution

Premises: All students are hardworking. Some hardworking people succeed.

Conclusion I — Some students succeed.

The hardworking people who succeed may or may not be students (they could be non-student hardworking people). We cannot definitively conclude that any student succeeds. *Does not necessarily follow.*

Conclusion II — All hardworking people are students.

The first premise establishes $\text{students} \subseteq \text{hardworking}$, not $\text{hardworking} \subseteq \text{students}$. The converse is not valid. *Does not follow.*

Neither conclusion follows.

Answer: (B) [Go Back to Q12](#)

Q13.

Solution

Statement: “All that glitters is not gold.”

Conclusion I — Attractive things may not always be valuable.

This is the universally accepted interpretation of the proverb: outward appearance (glitter/attractiveness) does not guarantee real worth (gold/value). *Follows.* ✓

Conclusion II — Gold never glitters.

The statement does not say gold never glitters; it says not everything that glitters is gold. Conclusion II is an incorrect literal inversion of the statement. *Does not follow.*

Only Conclusion I follows.

Answer: (C) [Go Back to Q13](#)

Q14.

Solution

Statement: “Please bring your identity card when reporting to the examination hall.”

Assumption I — An identity card is required to enter the examination hall.

The instruction to bring an identity card would have no purpose unless it is required for entry. This is clearly an underlying assumption. *Implicit.* ✓

Assumption II — Examinees may come without their identity card if not reminded.



The very act of issuing a reminder implies that candidates might otherwise forget to bring it. This assumption justifies the necessity of the reminder. *Implicit.* ✓

Both Assumptions I and II are implicit.

Answer: (D) [Go Back to Q14](#)

Q15.

Solution

Statement: “Should animals be used for medical research?”

Argument I — Yes, animal research has directly led to many life-saving medical breakthroughs and vaccines.

This argument is factually grounded. It directly and relevantly addresses the statement with a strong, verifiable reason. *Strong argument.* ✓

Argument II — No, animals do not experience pain or distress.

This premise is factually *incorrect*. Animals are scientifically established to feel pain and distress. An argument built on a false premise cannot be strong. *Not a strong argument.*

Only Argument I is strong.

Answer: (A) [Go Back to Q15](#)

Q16.

Solution

Problem: Many students are failing mathematics at the state board level.

Course I — Introduce remedial mathematics classes for struggling students.

This is a constructive, targeted, and practical intervention that directly addresses the root problem of student underperformance. *Should be followed.* ✓

Course II — Remove mathematics from the school curriculum entirely.

This is an extreme and counterproductive measure. It does not solve the problem of poor performance and deprives all students of an essential subject. *Should not be followed.*

Only Course I should be followed.

Answer: (B) [Go Back to Q16](#)



Q17.

Solution

Placing all seven people in positions 1 to 7 using the given clues:

- D is at the centre $\Rightarrow$ **Position 4: D**
- A is at one end, B immediately to A's right, C immediately to B's right $\Rightarrow$ **Positions 1, 2, 3: A, B, C**
- G is at the other end, E immediately to G's left $\Rightarrow$ **Positions 7, 6: G, E**
- F is in the only remaining seat $\Rightarrow$ **Position 5: F**

A(1) — B(2) — C(3) — D(4) — F(5) — E(6) — G(7)

The person immediately to the **left of E** (position 6) is at position 5 = **F**.

Answer: (C) [Go Back to Q17](#)

Q18.

Solution

Fix J at position 1 and number positions 1–5 clockwise. “To the left” means counter-clockwise (i.e., the preceding position in the clockwise sequence).

- K is immediately to the left of J $\Rightarrow$ K is at **position 5**.
- Remaining positions 2, 3, 4 are for L, M, N.
- N is immediately to the right of M (M then N clockwise): M=2,N=3 **or** M=3,N=4.
- L is not adjacent to K (position 5). K's neighbours are positions 4 and 1 (J), so $L \neq$ position 4.
- If M=3, N=4: L must be at position 2. Check adjacency of L(2): neighbours are J(1) and M(3) — neither is K. ✓

Clockwise arrangement: J(1) – L(2) – M(3) – N(4) – K(5) – back to J.

Immediately to the left of N (position 4) is position 3 = **M**.

Answer: (D) [Go Back to Q18](#)



Q19.

Solution

Building the order from the given clues:

- D has the most pages $\Rightarrow$ D is at the top.
- $A > C$ (A has more pages than C).
- $E < A$ (E has fewer pages than A) $\Rightarrow A > E$.
- $C > B$ (C has more pages than B).
- $B > E$ (B has more pages than E).

Combining all inequalities:

$$D > A > C > B > E$$

The book with the **most pages** is **D**.

Answer: (A) [Go Back to Q19](#)

Q20.

Solution

The analogy is based on **workplace**:

Doctor works in a **Hospital**.

Applying the same relationship:

Teacher works in a **School**.

(A university is a higher-education institution; the standard primary workplace of a teacher is a school.)

Answer: (B) [Go Back to Q20](#)



Q21.

Solution

The pattern: each letter in the second group is **one position ahead** of the corresponding letter in the first group.

$$BDF \rightarrow CEG : \quad B + 1 = C, \quad D + 1 = E, \quad F + 1 = G. \checkmark$$

Applying the same rule to HJL:

$$H + 1 = I, \quad J + 1 = K, \quad L + 1 = M \Rightarrow \mathbf{IKM}.$$

Answer: (C) [Go Back to Q21](#)

Q22.

Solution

Examining the group: Cricket, Hockey, Tennis, Swimming, Badminton.

- **Cricket:** played on land with a bat and ball.
- **Hockey:** played on land/ground with a stick and ball.
- **Tennis:** played on a court with a racket and ball.
- **Badminton:** played on a court with a racket and shuttlecock.
- **Swimming:** an aquatic sport requiring no bat, stick, or racket; played in water.

Cricket, Hockey, Tennis, and Badminton are all land-based sports using an implement (bat/stick/racket). **Swimming** is the odd one out.

Answer: (D) [Go Back to Q22](#)



Q23.

Solution

Checking whether each number is a perfect cube:

$$8 = 2^3 \checkmark, \quad 27 = 3^3 \checkmark, \quad 64 = 4^3 \checkmark, \quad 125 = 5^3 \checkmark.$$

$$100 = 10^2 \text{ (a perfect square, but **not** a perfect cube).}$$

The odd one out is **100**.

Answer: (A) [Go Back to Q23](#)

Q24.

Solution

To establish a causal link between the factory and the pollution, we need two things: (i) a plausible **mechanism** by which the factory causes pollution, and (ii) **elimination of alternative causes**.

- **Option A** (makes plastic bottles): irrelevant to air quality.
- **Option B** (chimneys emit visible smoke; no other major pollution sources appeared): provides the mechanism (smoke emissions) AND rules out alternative explanations. *Strongly supports the causal claim.* ✓
- **Option C** (employs 500 workers): irrelevant to air quality.
- **Option D** (another city with a similar factory has clean air): actually *weakens* the causal argument by suggesting the factory type alone is not sufficient to cause pollution.

Option B most strongly supports the claim.

Answer: (B) [Go Back to Q24](#)



Q25.

Solution

Statement: 200 students appeared; 180 passed.

- **Option A** (exam was easy): goes beyond the data — we cannot conclude *why* students passed.
- **Option B** (all studied hard): an assumption not supported by the numbers.
- **Option C:** $\frac{180}{200} \times 100 = 90\%$ passed. This is a direct, factual arithmetic conclusion fully supported by the given data. ✓
- **Option D** (the 20 who failed did not study): an assumption not supported by the data.

The **strongest** and only fully data-supported conclusion is **Option C**.

Answer: (C) [Go Back to Q25](#)

Q26.

Solution

Event I: Government announced a subsidy on electric vehicles (reducing their cost to consumers).

Event II: Sales of electric vehicles doubled within a year.

A subsidy lowers the effective purchase price of electric vehicles, making them more affordable and thereby stimulating consumer demand. This is a direct and logical cause-and-effect relationship: the subsidy (lower price) leads to increased sales.

Event I is the cause of Event II.

Answer: (D) [Go Back to Q26](#)

Q27.

Solution

Each hour mark on a clock face subtends $\frac{360^\circ}{12} = 30^\circ$ at the centre.

- **Minute hand at 6:** $6 \times 30^\circ = 180^\circ$ from the 12 o'clock position.
- **Hour hand at 9:** $9 \times 30^\circ = 270^\circ$ from the 12 o'clock position.



$$\text{Angle between the hands} = |270^\circ - 180^\circ| = 90^\circ.$$

Answer: (A) [Go Back to Q27](#)

Q28.

Solution

Substituting the defined symbols:

$$P = \div, \quad Q = \times, \quad R = +, \quad S = -$$

$$18 P 3 Q 4 R 5 S 2 \Rightarrow 18 \div 3 \times 4 + 5 - 2$$

Applying BODMAS (left to right for $\div$ and $\times$ first):

$$18 \div 3 = 6 \Rightarrow 6 \times 4 = 24 \Rightarrow 24 + 5 = 29 \Rightarrow 29 - 2 = 27.$$

Answer: (B) [Go Back to Q28](#)

Q29.

Solution

Question: How old is Priya?

Statement 1 alone (Priya is 5 years younger than her brother): We know the age difference but not the brother's actual age. *Insufficient.*

Statement 2 alone (Her brother is 25 years old): We know the brother's age but not its relation to Priya's age. *Insufficient.*

Both statements together:

$$\text{Priya's age} = \text{Brother's age} - 5 = 25 - 5 = 20 \text{ years.}$$

Sufficient. ✓

Both statements together are needed to answer the question.

Answer: (C) [Go Back to Q29](#)



Q30.

Solution

In a Venn diagram with three overlapping circles:

- The region where **all three circles overlap** represents students who participate in all three sports.
- Regions where **exactly two circles overlap** (excluding the third) represent students who play exactly those two sports.
- The **non-overlapping (exclusive) region** of any single circle — the part that does not touch any other circle — represents students who participate *only* in that one sport.

Therefore, the non-overlapping part of the “Plays Football” circle represents students who **play only Football** and do not play Cricket or Badminton.

Answer: (D) [Go Back to Q30](#)



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	D	3	A	4	B	5	C
6	D	7	A	8	B	9	C	10	D
11	A	12	B	13	C	14	D	15	A
16	B	17	C	18	D	19	A	20	B
21	C	22	D	23	A	24	B	25	C
26	D	27	A	28	B	29	C	30	D

