

MH CET LAW Logical & Analytical Reasoning

Sample Paper – 9

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.

1. Find the missing number in the series:

3, 7, 13, 21, 31, ?

- A) 43
- B) 41
- C) 39
- D) 45

2. Find the next letter in the series:

Z, X, V, T, R, ?

- A) O
- B) Q
- C) N
- D) P



3. Find the missing number in the series:

1, 4, 9, 16, 25, ?

A) 30

B) 33

C) 36

D) 38

4. In a certain code language, consonants are shifted one letter forward in the alphabet while vowels remain unchanged. If **LAKE** is coded as **MALE**, using the same rule, how is **ROPE** coded?

A) SOQF

B) SOQE

C) TORE

D) SQOE

5. If the value of a word is the sum of the positional values of its letters (A= 1, B= 2, ..., Z= 26), and **PINK** = 50, what is the value of **KING**?

A) 41

B) 42

C) 43

D) 44

6. Suresh says to Priya, "Your father's father is the son of my grandfather." How is Priya related to Suresh?

A) Sister

B) Cousin

C) Aunt

D) Niece



7. R is the mother of S. T is the father of R's husband. How is T related to S?
- A) Uncle
B) Father
C) Grandfather
D) Brother
8. Meena walks 6 m West, then turns South and walks 8 m, then turns East and walks 6 m. How far is she from her starting point?
- A) 6 m
B) 8 m
C) 10 m
D) 12 m
9. Omkar faces North. He turns clockwise by 90° , and then turns clockwise by another 180° . In which direction is he now facing?
- A) West
B) North
C) South
D) East

10. Statements:

- All fish live in water.
- Sharks are fish.

Conclusions:

- I. Sharks live in water.
II. All things that live in water are fish.

Which of the above conclusions follow?

- A) Only Conclusion II
B) Neither I nor II



- C) Both I and II
- D) Only Conclusion I

11. Statements:

- Some fruits are vegetables.
- All vegetables are healthy.

Conclusions:

- I. Some fruits are healthy.
- II. All healthy things are vegetables.

Which of the above conclusions follow?

- A) Only Conclusion II
- B) Neither I nor II
- C) Only Conclusion I
- D) Both I and II

12. Statements:

- No plastic is metal.
- Some metals are expensive.

Conclusions:

- I. Some expensive things are not plastic.
- II. All plastics are cheap.

Which of the above conclusions follow?

- A) Both I and II
- B) Only Conclusion I
- C) Only Conclusion II
- D) Neither I nor II



13. Statement: “Smoking causes various serious health problems including cancer and heart disease.”

Conclusions:

- I. People who smoke are at a higher risk of cancer and heart disease.
- II. People who have cancer definitely smoke.

- A) Only Conclusion I follows
- B) Only Conclusion II follows
- C) Both conclusions follow
- D) Neither conclusion follows

14. Statement: “Buy our new toothpaste and get a cavity-free smile!”

Assumptions:

- I. The toothpaste is effective against cavities.
- II. People generally desire a cavity-free smile.

Which assumptions are implicit in the statement?

- A) Only Assumption II is implicit
- B) Only Assumption I is implicit
- C) Neither assumption is implicit
- D) Both Assumptions I and II are implicit

15. Statement: “Should capital punishment be abolished?”

Arguments:

- I. Yes — No government has the right to take a human life under any circumstance.
- II. No — The fear of the ultimate penalty serves as an effective deterrent to the most serious crimes.

- A) Only Argument I is strong
- B) Only Argument II is strong



- C) Both arguments are strong
- D) Neither argument is strong

16. Problem: A company's sales have dropped significantly over the past quarter.

Courses of Action:

- I. Invest in marketing, customer engagement, and improving product quality.
- II. Immediately shut down the company and liquidate all assets.

- A) Both courses of action should be followed
- B) Only Course of Action I should be followed
- C) Only Course of Action II should be followed
- D) Neither course of action should be followed

17. Six people — M, N, O, P, Q, R — are seated in a straight row facing North. M occupies the leftmost seat. N is immediately to the right of M. O is immediately to the right of N. P is immediately to the right of O. Q is immediately to the right of P. R occupies the rightmost seat.

Who sits at the **3rd position from the left**?

- A) O
- B) P
- C) N
- D) Q



18. Six people — V, W, X, Y, Z, A — are seated around a circular table, all facing the centre. V is at position 1 (reference). W is directly opposite V. X is immediately to the right of V. Y is immediately to the right of X. Z is immediately to the right of W. A occupies the remaining position.

Who is **directly opposite** Y?

- A) V
- B) W
- C) Z
- D) A

19. Among five singers P, Q, R, S, and T ranked by age: Q is the oldest. R is younger than Q but older than S. P is younger than S. T is the youngest.

Who is the **3rd oldest** among them?

- A) P
- B) R
- C) S
- D) T

20. Kidney : Dialysis machine :: Heart : ?

- A) ECG
- B) Pacemaker
- C) Stethoscope
- D) Ventilator

21. PQRS : QRST :: WXYZ : ?

- A) XYZA
- B) UVWX
- C) XYZB
- D) WXYZ



22. Four of the following five belong to the same group. Which is the **odd one out**?

Violin Sitar Veena Flute Guitar

- A) Violin
- B) Guitar
- C) Veena
- D) Flute

23. Four of the following five numbers belong to the same group. Which is the **odd one out**?

4 8 16 32 20

- A) 4
- B) 8
- C) 20
- D) 32

24. A study finds that children who read at least 20 minutes daily perform better in school than those who do not. Which of the following conclusions is **best supported** by this finding?

- A) Television is harmful to children's learning.
- B) Regular daily reading appears to be associated with better school performance.
- C) All children should be forced to read for exactly 20 minutes every day.
- D) Reading is the only factor that affects school performance.



25. Statement: “On average, cities with more green spaces have lower reported stress levels among residents.”

Which of the following is the **strongest conclusion** that can be drawn?

- A) Green spaces may be associated with lower stress levels in urban areas.
- B) All cities should cut down buildings and replace them entirely with trees.
- C) Stress is caused only by the absence of green spaces.
- D) Urban residents are always more stressed than rural residents.

26. Event I: The municipal corporation banned single-use plastics in the city.

Event II: The amount of plastic waste collected by sanitation workers decreased significantly.

What is the relationship between these 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 cause
- D) Event I is the cause of Event II

27. What is the angle between the hour hand and the minute hand of a clock at **9:30**?

- A) 90°
- B) 95°
- C) 105°
- D) 120°



28. If '▽' stands for '+', '△' stands for '−', '□' stands for '×', and '○' stands for '÷', find the value of:

$$25 \bigcirc 5 \nabla 4 \square 3 \triangle 6$$

- A) 9
- B) 11
- C) 13
- D) 15

29. Is the value of a divisible by 5?

Statement 1: $a = 25$.

Statement 2: a is a perfect square.

- A) Only Statement 1 is sufficient to answer the question
- B) Only Statement 2 is sufficient to answer the question
- C) Either statement alone is sufficient
- D) Both statements together are needed

30. Three overlapping circles represent the sets of people who “Read novels”, “Watch films”, and “Play sports” respectively. The region inside **only** the “Watch films” circle, outside both other circles, represents people who:

- A) Do all three activities
- B) Watch films and read novels but not play sports
- C) Watch films and play sports but not read novels
- D) Only watch films



Solutions

Q1. Series: 3, 7, 13, 21, 31, ?

Solution

Compute the differences between consecutive terms:

$$7 - 3 = 4, \quad 13 - 7 = 6, \quad 21 - 13 = 8, \quad 31 - 21 = 10$$

The differences form an arithmetic sequence increasing by 2 each time. The next difference is $10 + 2 = 12$.

Missing term = $31 + 12 = 43$.

Answer: (A)

Q2. Letter series: Z, X, V, T, R, ?

Solution

Each letter in the series is obtained by moving **2 places backward** in the alphabet:

$$Z(26) \xrightarrow{-2} X(24) \xrightarrow{-2} V(22) \xrightarrow{-2} T(20) \xrightarrow{-2} R(18) \xrightarrow{-2} P(16)$$

The next letter is **P**.

Answer: (D)

Q3. Series: 1, 4, 9, 16, 25, ?

Solution

Each term is a perfect square:

$$1^2 = 1, \quad 2^2 = 4, \quad 3^2 = 9, \quad 4^2 = 16, \quad 5^2 = 25, \quad 6^2 = 36$$

The missing term is **36**.

Answer: (C)

Q4. LAKE → MALE; ROPE → ?



Solution

The rule: each **consonant** shifts one place forward; each **vowel** remains unchanged.

Verification with LAKE: L(consonant)→M, A(vowel)→A, K(consonant)→L, E(vowel)→E ⇒ MALE. ✓

Applying to ROPE:

$$\underbrace{R}_{\text{cons.}} \rightarrow S, \quad \underbrace{O}_{\text{vowel}} \rightarrow O, \quad \underbrace{P}_{\text{cons.}} \rightarrow Q, \quad \underbrace{E}_{\text{vowel}} \rightarrow E$$

Coded form: **SOQE**.

Answer: (B)

Q5. PINK = 50; KING =? (positional-value sum)

Solution

Verification: P= 16, I= 9, N= 14, K= 11 ⇒ 16 + 9 + 14 + 11 = 50. ✓

For KING: K= 11, I= 9, N= 14, G= 7

$$11 + 9 + 14 + 7 = 41$$

Answer: (A)

Q6. “Your father’s father is the son of my grandfather.” — Suresh to Priya

Solution

Let us trace the relationship step by step.

Suresh’s grandfather’s son = Suresh’s father (taking the direct generation).

The statement says Priya’s father’s father (i.e. Priya’s *paternal grandfather*) is Suresh’s father.

Therefore, Priya’s *father* is a son of Suresh’s father ⇒ Priya’s father is Suresh’s **brother**.

Hence Priya is Suresh’s **niece**.

Answer: (D)

Q7. R is the mother of S. T is the father of R’s husband. How is T related to S?



Solution

R's husband = S's father (since R is S's mother).

T is the father of R's husband = the father of S's father = S's **paternal grandfather**.

Answer: (C)

Q8. Meena: 6 m West, 8 m South, 6 m East. Distance from start?

Solution

Resolve displacements along two axes:

East–West: 6 m (W) + 6 m (E) = 0 (cancel out completely).

North–South: 8 m South (net southward displacement).

Straight-line distance from the starting point:

$$d = \sqrt{0^2 + 8^2} = 8 \text{ m}$$

Answer: (B)

Q9. Omkar faces North; clockwise 90° , then clockwise 180° . Final direction?

Solution

Start: North.

Clockwise 90° : North $\rightarrow$ East.

Clockwise 180° : East $\rightarrow$ West.

Omkar is now facing **West**.

Answer: (A)

Q10. All fish live in water; Sharks are fish. Conclusions I and II?

Solution

Using deductive logic (Barbara syllogism):

$$\text{Sharks} \subseteq \text{Fish} \subseteq \text{Water-dwellers} \Rightarrow \text{Sharks} \subseteq \text{Water-dwellers}$$

Conclusion I (Sharks live in water) **follows.** ✓

Conclusion II (All water-dwellers are fish) is the invalid converse of the first



premise — many water creatures are not fish. **Does not follow.** ×

Only **Conclusion I** follows.

Answer: (D)

Q11. Some fruits are vegetables; All vegetables are healthy. Conclusions I and II?

Solution

Conclusion I: Some fruits (those that are also vegetables) are healthy. This follows by the chain: Some fruits → vegetables → healthy. ✓

Conclusion II: “All healthy things are vegetables” is an invalid conversion of the second premise. ×

Only **Conclusion I** follows.

Answer: (C)

Q12. No plastic is metal; Some metals are expensive. Conclusions I and II?

Solution

Since no plastic is metal, all metals (including expensive ones) are outside the set of plastics.

The expensive metals are *not* plastic ⇒ **some expensive things are not plastic.**

Conclusion I follows. ✓

Conclusion II (All plastics are cheap) cannot be derived from the given premises; the premises say nothing about the cost of plastics. ×

Only **Conclusion I** follows.

Answer: (B)

Q13. Statement: Smoking causes cancer and heart disease. Conclusions I and II?

Solution

Conclusion I: “Smokers are at higher risk of cancer and heart disease” is a direct and valid inference from the statement. ✓

Conclusion II: “People with cancer definitely smoke” is an invalid reversal; cancer



has many causes besides smoking. ✕

Only **Conclusion I** follows.

Answer: (A)

Q14. Statement: “Buy our new toothpaste and get a cavity-free smile!” Assumptions I and II?

Solution

Assumption I (the toothpaste is effective against cavities) is implicit: the advertisement’s claim would be meaningless if this were not assumed to be true. ✓

Assumption II (people desire a cavity-free smile) is implicit: the advertisement is crafted to appeal to exactly this desire. ✓

Both Assumptions I and II are implicit.

Answer: (D)

Q15. Should capital punishment be abolished? Arguments I and II?

Solution

Argument I invokes the moral principle of the sanctity of human life — a substantial ethical consideration. **Strong.** ✓

Argument II raises the pragmatic deterrence rationale — a recognised and substantive policy argument. **Strong.** ✓

Both arguments are strong.

Answer: (C)

Q16. Company’s sales dropped. Courses of Action I and II?

Solution

Course I (invest in marketing and product quality) is a measured, constructive response to declining sales and is clearly advisable. ✓

Course II (immediately shut down and liquidate) is an extreme and disproportionate overreaction to a single quarter’s downturn. ✕

Only **Course of Action I** should be followed.



Answer: (B)

Q17. Six people in a row: M, N, O, P, Q, R. Who is 3rd from the left?

Solution

From the given clues, the arrangement from left to right is:

1	2	3	4	5	6
M	N	O	P	Q	R

The person at the **3rd position from the left** is O.

Answer: (A)

Q18. Six people in a circle: V, W, X, Y, Z, A. Who is directly opposite Y?

Solution

Placing people clockwise from the clues:

Pos 1	Pos 2	Pos 3	Pos 4	Pos 5	Pos 6
V	X	Y	W	Z	A

In a 6-person circular arrangement the seat directly opposite position n is position $n + 3$.

Opposite Y (position 3) = $3 + 3 = 6 = \text{A}$.

Answer: (D)

Q19. Five singers P, Q, R, S, T ranked by age. Who is 3rd oldest?

Solution

From the clues: $Q > R > S > P > T$ (oldest to youngest).



Rank	Singer
1st (Oldest)	Q
2nd	R
3rd	S
4th	P
5th (Youngest)	T

The 3rd oldest is **S**.

Answer: (C)

Q20. Kidney : Dialysis machine :: Heart : ?

Solution

A **dialysis machine** performs the filtration function of the **kidney** when the kidney fails.

Analogously, a **pacemaker** assists or regulates the rhythm of the **heart** when it malfunctions.

The answer is **Pacemaker**.

Answer: (B)

Q21. PQRS : QRST :: WXYZ : ?

Solution

The pattern: each letter in the group shifts **one place forward** in the alphabet.

$$P \rightarrow Q, \quad Q \rightarrow R, \quad R \rightarrow S, \quad S \rightarrow T$$

Applying the same rule to WXYZ:

$$W \rightarrow X, \quad X \rightarrow Y, \quad Y \rightarrow Z, \quad Z \rightarrow A \quad (\text{wraps around})$$

Result: **XYZA**.

Answer: (A)

Q22. Violin, Sitar, Veena, Flute, Guitar — odd one out?



Solution

Violin, Sitar, Veena, and Guitar are all **string instruments** (sound produced by vibrating strings).

Flute is a **wind instrument** (sound produced by blowing air).

The odd one out is **Flute**.

Answer: (D)

Q23. 4, 8, 16, 32, 20 — odd one out?

Solution

$$4 = 2^2, \quad 8 = 2^3, \quad 16 = 2^4, \quad 32 = 2^5$$

These are all **powers of 2**. However, 20 is **not** a power of 2 ($2^4 = 16$, $2^5 = 32$).

The odd one out is **20**.

Answer: (C)

Q24. Children reading ≥ 20 min daily perform better. Best-supported conclusion?

Solution

The study reports a *correlation* between daily reading and school performance.

Option A (TV is harmful) — not addressed by this study. ✕

Option B (regular reading is associated with better performance) — this is a careful, evidence-based statement that matches the study's findings exactly. ✓

Option C (force all children to read exactly 20 minutes) — an overly prescriptive leap beyond the data. ✕

Option D (reading is the *only* factor) — an extreme overstatement. ✕

The best-supported conclusion is **Option B**.

Answer: (B)

Q25. Cities with more green spaces have lower stress levels. Strongest conclusion?



Solution

The statement describes an average correlation; it does not establish sole causation or make absolute claims.

Option A (green spaces *may* be associated with lower stress) — hedged, cautious, and accurately reflects the data. ✓

Option B (all cities should remove buildings for trees) — radical prescription not warranted by the data. ✗

Option C (stress caused *only* by absence of green spaces) — overstates causation. ✗

Option D (urban residents *always* more stressed than rural) — absolute claim not made in the statement. ✗

The strongest conclusion is **Option A**.

Answer: (A)

Q26. Event I: plastic ban. Event II: less plastic waste collected. Relationship?

Solution

The ban on single-use plastics (Event I) directly caused a reduction in the supply and use of such plastics in the city. As a result, sanitation workers collected significantly less plastic waste (Event II).

Event I is the cause; Event II is the effect.

Answer: (D)

Q27. Angle between hour hand and minute hand at 9:30?

Solution

Hour hand position (degrees from 12 o'clock, clockwise):

$$9 \times 30^\circ + 30 \times 0.5^\circ = 270^\circ + 15^\circ = 285^\circ$$

Minute hand position:

$$30 \times 6^\circ = 180^\circ$$

Angle between the hands:

$$|285^\circ - 180^\circ| = 105^\circ$$



Answer: (C)

Q28. $25 \bigcirc 5 \nabla 4 \square 3 \triangle 6$ (with symbol substitution)

Solution

Substituting the symbols: $\bigcirc \rightarrow \div, \nabla \rightarrow +, \square \rightarrow \times, \triangle \rightarrow -$:

$$25 \div 5 + 4 \times 3 - 6$$

Applying BODMAS:

$$= 5 + 12 - 6 = 11$$

Answer: (B)

Q29. Is a divisible by 5? Statements 1 and 2.

Solution

Statement 1 alone ($a = 25$): Since $25 \div 5 = 5$ with no remainder, a is divisible by 5. **Sufficient.** ✓

Statement 2 alone (a is a perfect square): Perfect squares include 1, 4, 9, 16, 25, 36, ... Some (like 25) are divisible by 5 and others (like 36) are not. **Insufficient.** ✕

Only Statement 1 is sufficient.

Answer: (A)

Q30. Venn diagram with three circles: “Read novels”, “Watch films”, “Play sports”. Region only inside “Watch films”?

Solution

In a three-circle Venn diagram, the region **exclusively inside one circle** (with no overlap with the other two) represents elements that belong **only** to that set.

The region inside only the “Watch films” circle, outside both “Read novels” and “Play sports”, represents people who **only watch films** and do neither of the other two activities.

Answer: (D)



Answer Key

Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans
1	A	2	D	3	C	4	B	5	A
6	D	7	C	8	B	9	A	10	D
11	C	12	B	13	A	14	D	15	C
16	B	17	A	18	D	19	C	20	B
21	A	22	D	23	C	24	B	25	A
26	D	27	C	28	B	29	A	30	D

