

MH CET LAW Logical & Analytical Reasoning

Sample Paper – 5

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.

Questions

Q.1. What is the next number in the series?

6, 13, 22, 33, 46, ?

- (A) 61
- (B) 58
- (C) 59
- (D) 63

Q.2. Find the missing letter in the series:

Q, O, M, K, I, ?

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

Q.3. What is the next number in the series?



2, 4, 12, 48, 240, ?

- (A) 960
- (B) 1440
- (C) 720
- (D) 1200

Q.4. In a certain code language, every vowel is replaced by the next vowel in the English alphabet ($A \rightarrow E, E \rightarrow I, I \rightarrow O, O \rightarrow U, U \rightarrow A$) while consonants remain unchanged. How is **BRAVE** coded in this language?

- (A) BRIVI
- (B) BRAVA
- (C) BREVE
- (D) BREVI

Q.5. The value of a word is defined as the sum of the positions of its letters in the English alphabet ($A = 1, B = 2, \dots, Z = 26$). If the value of **SILENT** is 79, what is the value of **LISTEN**?

- (A) 79
- (B) 81
- (C) 77
- (D) 83

Q.6. Prithvi is Aarti's husband. Vikram is Prithvi's only son. Geeta is Vikram's daughter. How is Aarti related to Geeta?

- (A) Mother
- (B) Aunt
- (C) Grandmother
- (D) Sister

Q.7. Mala says to Ketan (a male): "Your only brother's sister is my mother's only daughter." How is Ketan related to Mala?



- (A) Father
- (B) Brother
- (C) Uncle
- (D) Cousin

Q.8. Rajat starts from a point and walks 6 m North. He then turns East and walks 8 m, turns South and walks 6 m, and finally turns West and walks 5 m. How far is he from his starting point?

- (A) 1 m
- (B) 2 m
- (C) 5 m
- (D) 3 m

Q.9. Supriya starts walking in the direction of sunrise. After 3 km she turns 180° and walks 3 km. She then turns right and walks 4 km. In which direction is she now moving?

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

Q.10. Statements:

All circles are squares.

All squares are triangles.

Conclusions:

I. All circles are triangles.

II. All triangles are circles.

- (A) Only Conclusion II follows
- (B) Both Conclusions follow
- (C) Only Conclusion I follows



(D) Neither Conclusion follows

Q.11. Statements:

Some pens are erasers.

No eraser is a ruler.

Conclusions:

I. Some pens are not rulers.

II. No pen is a ruler.

(A) Only Conclusion II follows

(B) Only Conclusion I follows

(C) Both Conclusions follow

(D) Neither Conclusion follows

Q.12. Statements:

All mountains are hills.

All hills are valleys.

Conclusions:

I. Some hills are mountains.

II. All mountains are valleys.

(A) Only Conclusion I follows

(B) Only Conclusion II follows

(C) Neither Conclusion follows

(D) Both Conclusions I and II follow

Q.13. Statement: "Pollution levels in cities are rising at an alarming rate."

Conclusions:

I. Industrialisation and vehicular emissions are major contributors to urban pollution.

II. Rural areas are completely unaffected by pollution of any kind.

(A) Only Conclusion I follows

(B) Only Conclusion II follows



- (C) Both Conclusions follow
- (D) Neither Conclusion follows

Q.14. Statement: “Avoid eating junk food to stay healthy.”

Assumptions:

- I. Junk food is harmful to health.
 - II. People desire to stay healthy.
- (A) Only Assumption II is implicit
 - (B) Only Assumption I is implicit
 - (C) Both Assumptions are implicit
 - (D) Neither Assumption is implicit

Q.15. Statement: “Should all plastic packaging be banned immediately?”

Arguments:

- I. Yes, because plastic is aesthetically unpleasant in landfills.
 - II. No, because safer and biodegradable alternatives are not yet economically viable for all industries.
- (A) Only Argument I is strong
 - (B) Only Argument II is strong
 - (C) Both Arguments are strong
 - (D) Neither Argument is strong

Q.16. Problem Statement: “Students frequently miss school due to illness.”

Courses of Action:

- I. Make school attendance completely optional for all students.
 - II. Organise regular health check-up camps for students at school.
- (A) Only Course of Action I follows
 - (B) Both Courses of Action follow
 - (C) Neither Course of Action follows
 - (D) Only Course of Action II follows



Q.17. Six people P, Q, R, S, T, and U are seated in a straight row. U is at the leftmost position. P is at the third position from the left. Q is immediately to the right of P. T is at the rightmost end. R is between Q and T. S is between U and P. Who sits at the **4th position from the right**?

- (A) P
- (B) Q
- (C) R
- (D) S

Q.18. Six people G, H, I, J, K, and L are seated around a circular table, all facing the centre. G sits at a fixed reference position. H is directly opposite G. I is immediately to the right of H. J is directly opposite I. K sits between J and H on the shorter arc. L occupies the remaining seat. Who is to the **immediate left** of K?

- (A) G
- (B) H
- (C) J
- (D) L

Q.19. Five friends — Pavan, Qadir, Riya, Salma, and Tarun — are ranked by height. Qadir is the tallest. Tarun is taller than Salma but shorter than Qadir. Salma is taller than Riya. Riya is taller than Pavan. Who is the **second tallest**?

- (A) Qadir
- (B) Tarun
- (C) Salma
- (D) Riya

Q.20. Tree : Forest :: Soldier : ?

- (A) Captain



- (B) Battle
- (C) Weapon
- (D) Army

Q.21. CEG : BDF :: GIK : ?

- (A) FHJ
- (B) EFG
- (C) FGH
- (D) GHI

Q.22. Which one does **not belong to the group?**

Sparrow Eagle Bat Pigeon Crow

- (A) Eagle
- (B) Sparrow
- (C) Bat
- (D) Pigeon

Q.23. Which number does **not belong to the group?**

121 144 169 192 196

- (A) 121
- (B) 192
- (C) 144
- (D) 169

Q.24. Event I: The government opened a new metro rail line connecting two major city areas.

Event II: Traffic congestion on the parallel main road reduced by 35%.

Which of the following best describes 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 cause
- (D) Event I is the cause of Event II

Q.25. Statement: “Countries that have invested heavily in public health infrastructure generally show lower mortality rates from infectious diseases.”

Which of the following conclusions is **most strongly supported** by the statement?

- (A) Investment in public health infrastructure tends to be associated with lower mortality from infectious diseases.
- (B) All countries should immediately abolish private healthcare.
- (C) Wealthy countries always have the best health outcomes.
- (D) Mortality rates are determined solely by government spending.

Q.26. Event I: The local government implemented a strict no-smoking policy in all public areas.

Event II: The number of active smokers in the area declined significantly over the following year.

Which of the following best describes the relationship between the two events?

- (A) Event II is the cause of Event I
- (B) Both events are independent of each other
- (C) Event I is the cause of Event II
- (D) Both are effects of a common cause

Q.27. The hour hand and the minute hand of a clock coincide at 12:00. After how many minutes will they **next** coincide?

- (A) 60 min
- (B) $65\frac{5}{11}$ min
- (C) 62 min



(D) 63 min

Q.28. If '\$' means ' $\times$ ', '%' means '+', '&' means '-', and '^' means ' $\div$ ', what is the value of the following expression?

$$9 \$ 4 \% 6 \& 3 \wedge 1$$

(A) 37

(B) 38

(C) 35

(D) 39

Q.29. Question: Is triangle ABC right-angled?

Statement 1: $AB^2 + BC^2 = AC^2$

Statement 2: $\angle B = 90^\circ$

Choose the correct option.

(A) Either statement alone is sufficient to answer the question.

(B) Statement 1 alone is sufficient; Statement 2 alone is not.

(C) Statement 2 alone is sufficient; Statement 1 alone is not.

(D) Both statements together are needed to answer the question.

Q.30. Three overlapping circles represent people who 'Can Cook', 'Can Sing', and 'Can Dance'. The region that lies inside both the 'Can Cook' and 'Can Dance' circles but **outside** the 'Can Sing' circle represents people who:

(A) Can do all three activities

(B) Can only cook

(C) Can cook and dance but not sing

(D) Can only dance



Solutions

Q.1 Number Series — 6, 13, 22, 33, 46, ?

Solution

Consecutive differences: $13 - 6 = 7$, $22 - 13 = 9$, $33 - 22 = 11$, $46 - 33 = 13$.

The differences increase by **2** each time, so the next difference is $13 + 2 = 15$.

Next term: $46 + 15 = 61$.

Answer: (A)

Q.2 Letter Series — Q, O, M, K, I, ?

Solution

Positional values: Q(17), O(15), M(13), K(11), I(9). Each term decreases by **2**.

Next value: $9 - 2 = 7$, which corresponds to the letter **G**.

Answer: (C)

Q.3 Number Series — 2, 4, 12, 48, 240, ?

Solution

Each term is obtained by multiplying the previous term by successive integers:

$$2 \xrightarrow{\times 2} 4 \xrightarrow{\times 3} 12 \xrightarrow{\times 4} 48 \xrightarrow{\times 5} 240 \xrightarrow{\times 6} 1440.$$

The next term is $240 \times 6 = 1440$.

Answer: (B)

Q.4 Coding-Decoding — BRAVE

Solution

Apply the rule (vowel $\rightarrow$ next vowel; consonant $\rightarrow$ unchanged):

B R A V E

↓ ↓ ↓ ↓ ↓

B R E V I

(A $\rightarrow$ E; E $\rightarrow$ I; consonants B, R, V unchanged.)

BRAVE is coded as **BREVI**.



Answer: (D)**Q.5 Coding — value of LISTEN****Solution**

SILENT and LISTEN are anagrams — they contain exactly the same six letters. Since the word value is the sum of positional values (independent of order):

$$\text{Value of LISTEN} = \text{Value of SILENT} = 79.$$

Answer: (A)**Q.6 Blood Relation — Aarti and Geeta****Solution**

- Prithvi is Aarti's husband $\Rightarrow$ they are husband and wife.
- Vikram is Prithvi's only son $\Rightarrow$ Vikram is also Aarti's son.
- Geeta is Vikram's daughter $\Rightarrow$ Geeta is Aarti's granddaughter.

Therefore, Aarti is Geeta's **Grandmother**.

Answer: (C)**Q.7 Blood Relation — Ketan and Mala****Solution**

Ketan is male. "Ketan's only brother's sister" means Ketan's own sister (a brother and his sister share the same sibling).

The statement says: Ketan's sister = Mala's mother's only daughter = Mala.

$\therefore$ Ketan's sister is Mala, so Ketan is Mala's **Brother**.

Answer: (B)

Q.8 Direction Sense — Rajat's displacement**Solution**

- North–South: 6 m North then 6 m South $\Rightarrow$ net displacement = 0.
- East–West: 8 m East then 5 m West $\Rightarrow$ net displacement = 3 m East.

$$\text{Distance from start} = \sqrt{0^2 + 3^2} = 3 \text{ m.}$$

Answer: (D)**Q.9 Direction Sense — Supriya's final direction****Solution**

The sun rises in the **East**, so Supriya initially walks East.

1. Walks 3 km East.
2. Turns $180^\circ \Rightarrow$ now faces West; walks 3 km West (returns to start).
3. At starting point, turns right from West $\Rightarrow$ now faces **North**; walks 4 km.

She is currently moving **North**.

Answer: (A)**Q.10 Syllogism — Circles, Squares, Triangles****Solution**

Both premises are universal affirmatives (A-type).

By transitivity: All circles are squares + All squares are triangles $\Rightarrow$ *All circles are triangles* (**Conclusion I follows**).

Conclusion II ("All triangles are circles") requires an invalid conversion of a universal affirmative and does **not** follow.

Only Conclusion I follows.

Answer: (C)

Q.11 Syllogism — Pens, Erasers, Rulers**Solution**

From “Some pens are erasers” and “No eraser is a ruler”: the pens that are erasers cannot be rulers. Hence *Some pens are not rulers* (**Conclusion I follows**).

Conclusion II (“No pen is a ruler”) is too strong — other pens (non-erasers) might or might not be rulers. It does **not** follow.

Only Conclusion I follows.

Answer: (B)

Q.12 Syllogism — Mountains, Hills, Valleys**Solution**

Conclusion I: From “All mountains are hills”, by I-type conversion: *Some hills are mountains*. **Follows.**

Conclusion II: “All mountains are hills” + “All hills are valleys” (transitivity) $\Rightarrow$ *All mountains are valleys*. **Follows.**

Both Conclusions I and II follow.

Answer: (D)

Q.13 Statement–Conclusion — Rising city pollution**Solution**

Conclusion I: Identifying industrialisation and vehicular emissions as major contributors to urban pollution is a well-supported, reasonable inference. **Follows.**

Conclusion II: Claiming rural areas are *completely* unaffected is extreme and unsubstantiated by the statement. **Does not follow.**

Only Conclusion I follows.

Answer: (A)



Q.14 Statement–Assumption — Avoid junk food**Solution**

Assumption I (junk food is harmful to health): The advice to avoid junk food would be pointless unless it is harmful. **Implicit.**

Assumption II (people desire to stay healthy): The advice targets people who value health; this desire is presupposed. **Implicit.**

Both Assumptions are implicit.

Answer: (C)

Q.15 Statement–Argument — Ban on plastic packaging**Solution**

Argument I (aesthetic unpleasantness): A superficial concern that does not constitute adequate justification for a sweeping ban. **Weak.**

Argument II (alternatives not economically viable): Raises a concrete, practical barrier relevant to policy; addresses feasibility directly. **Strong.**

Only Argument II is strong.

Answer: (B)

Q.16 Course of Action — Student illness**Solution**

Course I (make attendance optional): Does not address illness; undermines educational continuity. **Does not follow.**

Course II (health check-up camps): Directly targets the root cause by enabling early detection and prevention of illness. **Follows.**

Only Course of Action II follows.

Answer: (D)



Q.17 Seating Arrangement — Six people in a row**Solution**

Assigning positions 1 (leftmost) to 6 (rightmost):

- U → position 1 (given leftmost).
- P → position 3 (given).
- Q → position 4 (immediately right of P).
- T → position 6 (given rightmost).
- R → position 5 (between Q at 4 and T at 6).
- S → position 2 (between U at 1 and P at 3).

Pos 1	Pos 2	Pos 3	Pos 4	Pos 5	Pos 6
U	S	P	Q	R	T

4th from right = position $6 - 4 + 1 = 3 = \mathbf{P}$.

Answer: (A)

Q.18 Circular Seating — Six people around a table**Solution**

Number positions 1–6 clockwise around the table:

- G → 1 (reference).
- H → 4 (directly opposite G; $6 \div 2 = 3$ seats away clockwise).
- I → 5 (immediately right/clockwise of H).
- J → 2 (directly opposite I; 3 seats from I).
- K → 3 (on the shorter arc between J at 2 and H at 4).
- L → 6 (the only remaining seat).

Clockwise order: **G(1) – J(2) – K(3) – H(4) – I(5) – L(6)**.

Immediate left of K (pos. 3) = counterclockwise neighbour = pos. 2 = J.

Answer: (C)



Q.19 Ranking — Height order**Solution**

Combining all clues:

$$\text{Qadir} > \text{Tarun} > \text{Salma} > \text{Riya} > \text{Pavan}.$$

The second tallest person is **Tarun**.

Answer: (B)**Q.20** Word Analogy — Tree : Forest :: Soldier : ?**Solution**

The relationship: a *single unit* → its *collective group*.

A single *tree* belongs to a *forest*; a single *soldier* belongs to an *army*.

The answer is **Army**.

Answer: (D)**Q.21** Letter Analogy — CEG : BDF :: GIK : ?**Solution**

Each letter in BDF is exactly one position *before* the corresponding letter in CEG:

$$C - 1 = B, \quad E - 1 = D, \quad G - 1 = F.$$

Applying the same rule to GIK:

$$G - 1 = F, \quad I - 1 = H, \quad K - 1 = J.$$

The answer is **FHJ**.

Answer: (A)

Q.22 Odd One Out — Sparrow, Eagle, Bat, Pigeon, Crow**Solution**

Sparrow, Eagle, Pigeon, and Crow are all **birds** (class Aves).

Bat is a **mammal** (order Chiroptera) — it is the odd one out despite possessing the ability to fly.

Answer: (C)**Q.23** Odd One Out — 121, 144, 169, 192, 196**Solution**

Check each number:

$$121 = 11^2, \quad 144 = 12^2, \quad 169 = 13^2, \quad 196 = 14^2.$$

192 is not a perfect square ($13^2 = 169$, $14^2 = 196$), so it is the odd one out.

Answer: (B)**Q.24** Cause and Effect — Metro rail and road congestion**Solution**

The opening of the new metro line (Event I) offered commuters a faster alternative to the parallel road, directly causing the 35% reduction in road congestion (Event II).

Event I is the cause of Event II.

Answer: (D)**Q.25** Statement and Inference — Public health investment**Solution**

The statement establishes a *general association* (not an absolute rule) between public health investment and lower mortality.

- **Option (A):** faithfully restates the association without overgeneralising. **Correct conclusion.**
- Option (B): extreme policy prescription not implied by the statement.
- Option (C): introduces “wealthy countries” and “always” — unsupported generalisations.



- Option (D): claims sole determination by government spending — too absolute.

The strongest conclusion is (A).

Answer: (A)

Q.26 Cause and Effect — No-smoking policy and smoker numbers

Solution

The strict no-smoking policy in public areas (Event I) restricted opportunities for smoking and created legal and social pressure, leading to a significant decline in active smokers (Event II) over the following year.

Event I is the cause of Event II.

Answer: (C)

Q.27 Clock Problem — Next coincidence of hands

Solution

Minute hand speed: $6^\circ/\text{min}$. Hour hand speed: $0.5^\circ/\text{min}$.

Relative gain of minute hand: $5.5^\circ/\text{min}$.

Time to gain one full lap (360°) from 12:00:

$$t = \frac{360^\circ}{5.5^\circ/\text{min}} = \frac{720}{11} = 65\frac{5}{11} \text{ minutes.}$$

The hands next coincide after $65\frac{5}{11}$ minutes.

Answer: (B)



Q.28 Mathematical Operations**Solution**

Substituting the given meanings ($\$ = \times$, $\% = +$, $\& = -$, $\wedge = \div$):

$$9 \times 4 + 6 - 3 \div 1.$$

Apply BODMAS (multiplication and division before addition and subtraction):

$$36 + 6 - 3 = 39.$$

Answer: (D)**Q.29 Data Sufficiency — Right-angled triangle****Solution**

Statement 1 alone: $AB^2 + BC^2 = AC^2$ is the converse of the Pythagorean theorem — it holds if and only if $\angle B = 90^\circ$. **Sufficient.**

Statement 2 alone: $\angle B = 90^\circ$ directly confirms the right angle. **Sufficient.**

Either statement alone is sufficient to determine that triangle ABC is right-angled.

Answer: (A)**Q.30 Venn Diagram — Cook, Sing, Dance****Solution**

In a three-circle Venn diagram, the region inside *both* “Can Cook” and “Can Dance” but *outside* “Can Sing” contains exactly those people who can cook and dance but **cannot** sing.

This represents people who **can cook and dance but not sing**.

Answer: (C)

Answer Key

Click on any answer to jump to its solution.

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

