

MH CET LAW Logical & Analytical Reasoning

Sample Paper – 7

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.

Logical & Analytical Reasoning

Q.1. What comes next in the series?

2, 3, 5, 7, 11, ?

- A) 12
- B) 14
- C) 13
- D) 15

Q.2. What comes next in the series?

AZ, BY, CX, DW, ?

- A) EV
- B) FU
- C) GT
- D) HS

Q.3. What comes next in the series?

5, 10, 20, 40, 80, ?



- A) 120
- B) 140
- C) 150
- D) 160

Q.4. If **SHIP** is coded as **PIHS**, how is **FIRM** coded?

- A) FRMI
- B) MRIF
- C) MFRI
- D) RIFM

Q.5. If **HONEY = 67** (sum of alphabetical positions: H = 8, O = 15, N = 14, E = 5, Y = 25), what is the value of **MONEY**?

- A) 70
- B) 71
- C) 72
- D) 73

Q.6. Anita's father's only sister is Meena. Meena's son is Rakesh. How is Rakesh related to Anita?

- A) Cousin
- B) Nephew
- C) Uncle
- D) Brother

Q.7. Pointing to a woman, Deepak says, "She is the wife of the grandson of my mother." How is the woman related to Deepak?

- A) Sister
- B) Mother
- C) Aunt



D) Daughter-in-law

Q.8. Esha walks 5 m North, then turns East and walks 12 m. How far is she from her starting point?

A) 12 m

B) 13 m

C) 14 m

D) 15 m

Q.9. Chanda walks 4 m East, then turns North and walks 3 m. What is the shortest distance from her starting point?

A) 4 m

B) 6 m

C) 5 m

D) 7 m

Q.10. Premises:

- All roses are flowers.
- Some flowers wilt quickly.

Conclusions:

I. Some roses wilt quickly.

II. All flowers are roses.

Which conclusion(s) follow?

A) Neither follows

B) Only I follows

C) Only II follows

D) Both follow

Q.11. Premises:

- All cars are vehicles.



- All vehicles need fuel.

Conclusions:

- I. All cars need fuel.
- II. All fuel-needing things are cars.

Which conclusion(s) follow?

- A) Only II
- B) Neither
- C) Both
- D) Only I

Q.12. Premises:

- No bird is a mammal.
- Some mammals are herbivores.

Conclusions:

- I. Some herbivores are not birds.
- II. No herbivore is a bird.

Which conclusion(s) follow?

- A) Both
- B) Only I
- C) Only II
- D) Neither

Q.13. Statement: “The more you practise, the better you perform.”**Conclusions:**

- I. People who practise always win every competition.
- II. Regular practice generally leads to improved performance.

Which conclusion(s) follow?

- A) Only I



- B) Both
- C) Only II
- D) Neither

Q.14. Statement: “The Ministry of Education recommends that students spend at least one hour per day in outdoor physical activity.”

Assumptions:

- I. Physical activity has health benefits for students.
- II. All students currently spend zero time outdoors.

Which assumption(s) is/are implicit?

- A) Only I
- B) Only II
- C) Both
- D) Neither

Q.15. Statement: “Should private vehicles be banned in city centres?”

Arguments:

- I. Yes — it will significantly reduce air pollution and traffic congestion.
- II. No — many people depend entirely on private vehicles for their daily commute.

Which argument(s) is/are strong?

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

Q.16. Problem: A large number of road accidents are occurring at a particular busy intersection.

Courses of Action:



- I. Install traffic signals, speed-breakers, and adequate road markings at the intersection.
- II. Close one of the roads feeding the intersection permanently.

Which course(s) of action should be followed?

- A) Both I and II
- B) Only I
- C) Only II
- D) Neither

Q.17. Six people A, B, C, D, E and F are sitting in a row facing the same direction. B is at the 3rd position from the left. A is immediately to the left of B. D is immediately to the right of B. F is at the rightmost end. E is between D and F. C is at the leftmost position.

Who is at the **4th position from the right**?

- A) A
- B) D
- C) B
- D) C

Q.18. Five people A, B, C, D and E are sitting around a circular table, all facing the centre. B is immediately to the right of A. D is 2 seats to the right of A. C is immediately to the right of D. E occupies the remaining seat.

Who is **immediately to the left of A**?

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

Q.19. Five athletes A, B, C, D and E participate in a race. E is the fastest. A is faster than C but slower than E. C is faster than B. B is faster than D.

Who is the **slowest**?



- A) C
- B) B
- C) A
- D) D

Q.20. Stethoscope : Doctor :: Spanner : ?

- A) Engineer
- B) Mechanic
- C) Plumber
- D) Carpenter

Q.21. BCDE : CDEF :: MNOP : ?

- A) LMNO
- B) OPQR
- C) NOPQ
- D) MNOP

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

Eraser Hammer Saw Chisel Screwdriver

- A) Eraser
- B) Hammer
- C) Saw
- D) Chisel

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

17, 19, 23, 27, 29

- A) 17
- B) 19
- C) 23
- D) 27



Q.24. After solar panels were installed on the school roof, the school's monthly electricity bill dropped by 40%.

Which conclusion is **best supported** by this information?

- A) Solar panels are cheap to buy and install.
- B) The solar panels contributed significantly to reducing the school's electricity costs.
- C) The school no longer needs grid electricity at all.
- D) All schools should immediately ban grid electricity.

Q.25. Statement: "In this city, sales of air purifiers increased by 200% in the month following a severe dust storm."

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

- A) Air purifiers are the only effective solution to air pollution.
- B) Dust storms occur every month in this city.
- C) The dust storm likely prompted many residents to purchase air purifiers.
- D) All residents of the city bought air purifiers after the storm.

Q.26. Event I: A celebrity chef publicly endorsed a local restaurant.

Event II: The restaurant's reservation bookings were completely full for the next three months.

What is the relationship between these two events?

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

Q.27. What is the angle between the hour and minute hands of a clock at **12:30**?

- A) 150°
- B) 155°



C) 160°

D) 165°

Q.28. The symbols carry the following meanings: '*' denotes '+', '#' denotes '-', '@' denotes '×', and '!' denotes '÷'.

Find the value of:

$$16 ! 4 * 3 @ 5 \# 7 = ?$$

A) 8

B) 12

C) 15

D) 10

Q.29. Question: What is the perimeter of rectangle ABCD?

Statement 1: The length of rectangle ABCD is 12 m.

Statement 2: The width of rectangle ABCD is 5 m.

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 alone nor both together are sufficient

Q.30. Three overlapping circles represent people who "Speak Hindi", "Speak Marathi" and "Speak English". The region that lies inside **both** the "Speak Hindi" and "Speak Marathi" circles but **outside** the "Speak English" circle represents people who:

A) Speak Hindi and Marathi but not English

B) Speak all three languages

C) Speak only Hindi

D) Speak only Marathi



Detailed Solutions

Sol.1.

Solution

The given series consists of **prime numbers**: 2, 3, 5, 7, 11, ...

Each term is the next prime in the natural sequence. The next prime after 11 is **13**.

Verification: 12 is divisible by 2, 3; 13 is divisible only by 1 and 13 (prime); 14 is divisible by 2.

Answer: (C)

Solution

The series follows **two interleaved patterns**:

- Sol.2.
- First letter of each pair: A, B, C, D, E (ascending alphabetical order)
 - Second letter of each pair: Z, Y, X, W, V (descending alphabetical order)

Pairing the 5th terms together: **EV**.

Answer: (A)

Sol.3.

Solution

Each term is obtained by **multiplying the previous term by 2**:

$$5 \xrightarrow{\times 2} 10 \xrightarrow{\times 2} 20 \xrightarrow{\times 2} 40 \xrightarrow{\times 2} 80 \xrightarrow{\times 2} 160$$

$$80 \times 2 = 160$$

Answer: (D)

Sol.4.

Solution

The coding rule is: **write the letters of the word in reverse order**.

Verification: S-H-I-P reversed = P-I-H-S = PIHS ✓

Applying to FIRM:

F-I-R-M reversed = M-R-I-F = **MRIF**

Answer: (B)

Sol.5.



Solution

Each word's value = sum of the alphabetical positions of its letters.

MONEY:

$$M(13) + O(15) + N(14) + E(5) + Y(25) = 72$$

Quick method: MONEY replaces H(8) in HONEY with M(13), an increase of $13 - 8 = 5$:

$$67 + 5 = 72$$

Answer: (C)

Solution

Tracing the chain of relationships:

- Sol.6.**
- Anita's father's only sister = Anita's **paternal aunt** (Meena).
 - Meena's son = Rakesh.
 - The son of one's paternal aunt = one's **cousin**.

Therefore, Rakesh is Anita's **Cousin**.

Answer: (A)

Solution

Tracing the chain of relationships:

- Sol.7.**
- Deepak's mother's grandson $\Rightarrow$ Deepak's **son** (Deepak himself is the son of his mother; the grandson of his mother is Deepak's son).
 - The woman is the **wife** of Deepak's son.
 - Wife of one's son = **daughter-in-law**.

The woman is Deepak's **Daughter-in-law**.

Answer: (D)

Solution

Esha's path forms a **right-angled triangle**:

- Sol.8.**
- Northward displacement = 5 m
 - Eastward displacement = 12 m



By the Pythagorean theorem:

$$d = \sqrt{5^2 + 12^2} = \sqrt{25 + 144} = \sqrt{169} = 13 \text{ m}$$

This is the classic 5–12–13 Pythagorean triple.

Answer: (B)

Solution

Chanda's path forms a **right-angled triangle** (3–4–5 triple):

- Sol.9.
- Eastward displacement = 4 m
 - Northward displacement = 3 m

$$d = \sqrt{4^2 + 3^2} = \sqrt{16 + 9} = \sqrt{25} = 5 \text{ m}$$

Answer: (C)

Sol.10.

Solution

Premises: All roses are flowers. Some flowers wilt quickly.

Conclusion I: "Some roses wilt quickly."

The flowers that wilt quickly may be entirely non-rose flowers. The premises give no guarantee that any wilting flowers are roses. **Does not necessarily follow.**

Conclusion II: "All flowers are roses."

This is the invalid converse of Premise 1. Many flowers (tulips, lilies, etc.) are not roses. **Does not follow.**

Answer: Neither conclusion follows.

Answer: (A)

Sol.11.

Solution

Premises: All cars are vehicles. All vehicles need fuel.

Conclusion I: "All cars need fuel."

Cars $\subseteq$ Vehicles and Vehicles $\subseteq$ fuel-needing things, so by transitivity: Cars $\subseteq$ fuel-needing things. **Follows.**

Conclusion II: "All fuel-needing things are cars."

Buses, trucks, motorcycles, and aircraft all need fuel but are not cars. The set of



fuel-needing things is far larger than the set of cars. **Does not follow.**

Answer: Only Conclusion I follows.

Answer: (D)

Sol.12.

Solution

Premises: No bird is a mammal. Some mammals are herbivores.

Conclusion I: “Some herbivores are not birds.”

From Premise 2, there exist mammal-herbivores. From Premise 1, no mammal is a bird. Therefore, those mammal-herbivores are definitely not birds — so some herbivores are not birds. **Follows.**

Conclusion II: “No herbivore is a bird.”

Some herbivores could be birds (birds that eat plant matter exist). The premises do not rule out bird-herbivores that are non-mammals. **Does not necessarily follow.**

Answer: Only Conclusion I follows.

Answer: (B)

Sol.13.

Solution

Statement: “The more you practise, the better you perform.”

Conclusion I: “People who practise always win every competition.”

The statement says performance improves with practice, not that victory is guaranteed. Winning depends on many factors beyond one’s own performance. This is too extreme. **Does not follow.**

Conclusion II: “Regular practice generally leads to improved performance.”

This is a direct, measured paraphrase of the statement and is fully supported. **Follows.**

Answer: Only Conclusion II follows.

Answer: (C)

Sol.14.



Solution

Statement: The Ministry of Education recommends at least one hour of daily outdoor physical activity for students.

Assumption I: “Physical activity has health benefits for students.”

Any recommendation to increase physical activity is meaningful only if such activity confers some benefit. This is **implicit** in the statement.

Assumption II: “All students currently spend zero time outdoors.”

The recommendation presupposes insufficient activity, not necessarily zero activity. Assuming zero outdoor time for every student is an extreme claim unsupported by the statement. **Not implicit.**

Answer: Only Assumption I is implicit.

Answer: (A)

Sol.15.

Solution

Statement: Should private vehicles be banned in city centres?

Argument I (Yes): Banning private vehicles would significantly reduce air pollution and traffic congestion — a direct, substantive environmental and urban benefit. **Strong argument.**

Argument II (No): Many people depend entirely on private vehicles for their daily commute — a genuine, non-trivial hardship for a large section of the population. **Strong argument.**

Both arguments address core dimensions of the debate (environmental benefit vs. citizen inconvenience) directly and with real-world force.

Answer: Both arguments are strong.

Answer: (D)

Sol.16.

Solution

Problem: High frequency of road accidents at a busy intersection.

Course I: Install traffic signals, speed-breakers, and road markings.

This is a **practical, proportionate, and targeted** measure that directly addresses the cause of the accidents. **Should be followed.**

Course II: Permanently close one of the feeding roads.

This is a **drastic and disproportionate** response that disrupts traffic citywide, harms commuters, and businesses, without necessarily eliminating accidents else-



where. **Should not be followed.**

Answer: Only Course I should be followed.

Answer: (B)

Solution

Constructing the arrangement step by step:

- Sol.17.
- B is at position 3 (given directly).
 - A is immediately to the left of B $\Rightarrow$ A = position 2.
 - D is immediately to the right of B $\Rightarrow$ D = position 4.
 - F is at the rightmost end $\Rightarrow$ F = position 6.
 - E is between D and F $\Rightarrow$ E = position 5.
 - C is at the leftmost position $\Rightarrow$ C = position 1.

1	2	3	4	5	6
C	A	B	D	E	F

4th from the right = $6 - 4 + 1 =$ position 3 = **B**.

Answer: (C)

Solution

Building the circular arrangement (clockwise, all facing centre):

- Sol.18.
- A at position 1 (reference seat).
 - B immediately to the right of A $\Rightarrow$ B = position 2.
 - D is 2 seats to the right of A $\Rightarrow$ D = position 3.
 - C immediately to the right of D $\Rightarrow$ C = position 4.
 - E at the remaining seat $\Rightarrow$ E = position 5.

Clockwise order: **A(1) – B(2) – D(3) – C(4) – E(5)** – back to A.

For persons facing the centre, “immediately to the left” is the next seat in the **anti-clockwise** direction. Going anti-clockwise from A(1) arrives at E(5).

E is immediately to the left of A.

Answer: (A)



Solution

Combining all speed clues:

- Sol.19.
- E is the fastest.
 - A is faster than C and slower than E.
 - C is faster than B.
 - B is faster than D.

Speed order (fastest → slowest):

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

The **slowest** athlete is **D**.

Answer: (D)

Solution

The analogy follows the pattern: **specialised tool/instrument : the professional who uses it.**

- Sol.20.
- A **stethoscope** is the primary diagnostic instrument of a **doctor**.
 - A **spanner** (wrench) is the primary hand tool of a **mechanic**.

Answer: **Mechanic**.

Answer: (B)

Solution

The rule: each letter in the group advances by **+1 position** in the alphabet to form the paired group.

$$\text{Sol.21. BCDE} \xrightarrow{+1 \text{ each}} \text{CDEF}$$

Applying the same rule to MNOP:

$$M \rightarrow N, \quad N \rightarrow O, \quad O \rightarrow P, \quad P \rightarrow Q$$

$$\text{MNOP} \xrightarrow{+1} \text{NOPQ}$$

Answer: (C)



Solution

Classifying each item by category:

- Sol.22.
- **Hammer** — hand tool (construction/carpentry) ✓
 - **Saw** — hand tool (construction/carpentry) ✓
 - **Chisel** — hand tool (construction/carpentry) ✓
 - **Screwdriver** — hand tool (mechanical/carpentry) ✓
 - **Eraser** — stationery item (writing/drawing) ×

Hammer, Saw, Chisel, and Screwdriver are all **hand tools** used in construction or mechanical work. An eraser belongs to a completely different category.

Odd one out: **Eraser**.

Answer: (A)

Solution

Testing each number for primality:

- Sol.23.
- 17 — divisible only by 1 and 17: **prime** ✓
 - 19 — divisible only by 1 and 19: **prime** ✓
 - 23 — divisible only by 1 and 23: **prime** ✓
 - **27** — $27 = 3 \times 9 = 3^3$: **composite** ×
 - 29 — divisible only by 1 and 29: **prime** ✓

All others are prime numbers; 27 is not prime.

Odd one out: **27**.

Answer: (D)

Sol.24.

Solution

Given: After solar panels were installed, the school's monthly electricity bill dropped by 40%.

A) "Solar panels are cheap to buy and install." — The passage makes no mention of installation cost. **Not supported.**

B) "The solar panels contributed significantly to reducing the school's electricity costs." — A 40% reduction directly after solar panel installation is strong evidence of a significant contribution. **Best supported.**

C) "The school no longer needs grid electricity at all." — The bill dropped by



40%, not 100%; the school still uses some grid electricity. **Not supported.**

D) “All schools should immediately ban grid electricity.” — An extreme policy generalised from a single data point. **Not supported.**

Answer: Option B is best supported.

Answer: (B)

Sol.25.

Solution

Statement: Air purifier sales rose 200% in the month following a severe dust storm.

A) “Air purifiers are the only effective solution to air pollution.” — Far too absolute; nothing in the statement supports this claim. **Does not follow.**

B) “Dust storms occur every month in this city.” — The passage describes a single event; frequency is not stated. **Does not follow.**

C) “The dust storm likely prompted many residents to purchase air purifiers.” — The 200% surge in sales immediately following the storm is strong evidence of a causal link. This is a measured, evidence-based inference. **Strongest conclusion.**

D) “All residents bought air purifiers.” — Even a 200% increase in sales does not mean universal purchase. **Too extreme; does not follow.**

Answer: Option C is the strongest conclusion.

Answer: (C)

Sol.26.

Solution

Event I: A celebrity chef publicly endorsed a local restaurant.

Event II: The restaurant’s bookings were completely full for three months.

A celebrity endorsement generates massive public awareness and desire to visit the restaurant, directly driving a surge in reservation demand. Event I (endorsement) is clearly the **cause** and Event II (full bookings) is the **effect**.

There is a direct and logical causal chain from the endorsement to the booking surge.

Answer: Event I is the cause of Event II.

Answer: (A)

Sol.27.



Solution

At 12:30:

Hour hand position (starts at 0° , moves 0.5° per minute):

$$\theta_H = 0^\circ + 30 \times 0.5^\circ = 15^\circ$$

Minute hand position (moves 6° per minute):

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

Angle between the hands:

$$|\theta_M - \theta_H| = |180^\circ - 15^\circ| = \mathbf{165^\circ}$$

Answer: (D)

Sol.28.

Solution

Substituting the given operation codes:

$$16 ! 4 * 3 @ 5 \# 7 \implies 16 \div 4 + 3 \times 5 - 7$$

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

$$= 4 + 15 - 7 = \mathbf{12}$$

Answer: (B)

Sol.29.

Solution**Required:** Perimeter of rectangle ABCD = $2(\text{length} + \text{width})$. Two unknowns must be found.**Statement 1 alone** (length = 12 m): Width is still unknown. Perimeter cannot be calculated. **Insufficient.****Statement 2 alone** (width = 5 m): Length is still unknown. Perimeter cannot be calculated. **Insufficient.****Both statements together:**

$$\text{Perimeter} = 2(12 + 5) = 2 \times 17 = \mathbf{34 \text{ m}} \quad \checkmark$$



Answer: Both statements together are needed.

Answer: (C)

Solution

In a three-circle Venn diagram with circles labelled “Speak Hindi”, “Speak Marathi” and “Speak English”:

The region inside **both** “Hindi” and “Marathi” but **outside** “English” is the **Hindi $\cap$ Marathi only** region.

People in this region:

- Sol.30.**
- Speak Hindi ✓
 - Speak Marathi ✓
 - Do **not** speak English ✓

Answer: Speak Hindi and Marathi but not English.

Answer: (A)



Answer Key

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

