MH CET LAW Logical & Analytical Reasoning

Sample Paper – 6

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:

$$1, \quad 3, \quad 7, \quad 15, \quad 31, \quad ?$$

A) 57

B) 63

C) 60

D) 62

2. Find the next letter in the series:

$$A, \quad B, \quad D, \quad G, \quad K, \quad ?$$

A) N

B) O

C) Q

D) P

3. Find the missing number in the series:

$$6, \quad 11, \quad 21, \quad 36, \quad 56, \quad ?$$

A) 78

B) 79

C) 81

D) 83

4. In a certain code language, KING is written as LJOH. Using the same code, how is **QUEEN** written?

A) RVFFO

B) PTDDN

C) PWFFN

D) QVFFO

5. If the code for CAT is 24 (obtained by summing the positional values of its letters: C$=3$, A$=1$, T$=20$), what is the code for **BAT**?

A) 22

B) 23

C) 25

D) 24

6. Zara introduces a man, Imran, and says, “He is the son of the woman who is the mother of the husband of my mother.” How is Imran related to Zara?

A) Brother

B) Son

C) Father

D) Uncle

7. Farhan shows a photograph and says, "The person in this photo is the son of the only son of my grandfather." How is the person in the photograph related to Farhan?

A) Father

B) Grandfather

C) Brother

D) Uncle

8. Nisha is initially facing **West**. She turns **clockwise by** 90, then **counter-clockwise by** 180, and finally **clockwise by** 270. Which direction is she facing at the end?

A) East

B) West

C) South

D) North

9. Vikram leaves his home and walks 15 m East, then turns right and walks 10 m, then turns right again and walks 15 m, and finally turns left and walks 10 m. How far, and in which direction, is Vikram from his starting point?

A) 10 m South

B) 20 m South

C) 15 m North

D) 20 m North

10. Statements:

- Some phones are laptops.
- Some laptops are tablets.

Conclusions:

I. Some phones are tablets.
II. All tablets are phones.

Which of the above conclusions follow?

A) Only I

B) Only II

C) Both I and II

D) Neither I nor II

11. Statements:

- All planets orbit the Sun.
- Earth is a planet.

Conclusions:

I. Earth orbits the Sun.
II. All things that orbit the Sun are planets.

Which of the above conclusions follow?

A) Only II

B) Neither

C) Only I

D) Both

12. Statements:

- No fish can live on land.
- All dolphins are fish.

Conclusions:

I. No dolphin can live on land.
II. Some fish cannot live on land.

Which of the above conclusions follow?

A) Both I and II follow

B) Only I follows

C) Only II follows

D) Neither follows

13. Statement: "A stitch in time saves nine."

Conclusions:

I. Timely action prevents larger problems from developing.
II. Sewing clothes early in the morning is always advisable.

Which conclusion follows?

A) Only II

B) Only I

C) Both

D) Neither

14. **Statement:** "Studies suggest that listening to classical music while studying may improve concentration."

Assumptions:

I. There is a possible connection between music and concentration levels.
II. Classical music may be more beneficial than other genres for certain learners.

Which assumption(s) is/are implicit?

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

15. **Statement:** "Should the internet be censored by the government?"

Arguments:

I. **Yes** — unchecked internet enables the rapid spread of misinformation and hate speech.
II. **No** — government censorship of the internet is a violation of freedom of expression and access to information.

Identify the strong argument(s).

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

16. Problem: A city is experiencing a severe and worsening shortage of drinking water.

Courses of Action:

I. Launch a public water-conservation awareness campaign.
II. Invest in building additional water treatment and supply infrastructure.

Which course(s) of action should be followed?

A) Both I and II

B) Only I

C) Only II

D) Neither

17. Eight people — A, B, C, D, E, F, G, and H — are seated in a straight row from left to right. Read the clues carefully:

- A is at the leftmost position (position 1).
- B is immediately to the right of A.
- C is immediately to the right of B.
- D is at the 5th position from the left.
- E is immediately to the left of D.
- F is immediately to the right of D.
- G is at the 7th position from the left.
- H is at the rightmost position.

Who is at the 3rd position from the right?

A) E

B) F

C) G

D) D

18. Six people — P, Q, R, S, T, and U — are seated around a circular table, all facing the centre. Read the clues carefully:

- Q is at position 1 (reference point, clockwise numbering).
- P is sitting directly opposite Q.
- R is immediately to the right of Q.
- S is immediately to the left of P.
- T is sitting directly opposite R.
- U occupies the only remaining position.

Who is sitting directly opposite S?

A) P

B) Q

C) T

D) U

19. Five envelopes — P, Q, R, S, and T — contain different amounts of money. The following is known:

- T contains the most money.
- S contains more money than R but less than T.
- R contains more money than Q.
- Q contains more money than P.

Which envelope has the 3rd highest amount of money?

A) T

B) S

C) R

D) Q

20. **Marathon** is to **Running** as **Chess** is to **?**

A) Board game

B) Tournament

C) Thinking

D) Strategy

21. 121 : 11 :: 169 : **?**

A) 11

B) 13

C) 14

D) 12

22. Find the **odd one out**:

France, Germany, Italy, Spain, Japan

A) France

B) Italy

C) Germany

D) Japan

23. Find the **odd one out**:

3, 5, 7, 11, 14

A) 5

B) 7

C) 14

D) 11

24. **Statement:** "A doctor reports: most patients who followed this diet plan for three months showed significant improvement in their cholesterol levels."

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

A) Following this diet plan may help reduce cholesterol levels.

B) This diet plan cures all diseases.

C) Cholesterol is only harmful when this diet is not followed.

D) All doctors recommend this diet plan.

25. **Statement:** "In a poll of 500 respondents, 65% said they preferred working from home over working from the office."

Which of the following is the **strongest** conclusion?

A) All employees should work from home permanently.

B) A majority of respondents in this poll preferred remote work.

C) The 35% who prefer office work are less productive.

D) Offices are now obsolete and should be closed.

26. Study the two events and identify their causal relationship.

Event I: Several school children fell ill after consuming the mid-day meal.

Event II: The school kitchen was found to have extremely poor hygiene standards during a health inspection.

A) Event I is the cause of Event II

B) Both events are independent of each other

C) Both are effects of a common external cause

D) Event II is the cause of Event I

27. In **5 minutes**, by how many degrees does the **minute hand** of a clock rotate?

A) 60

B) 15

C) 30

D) 45

28. Symbols are redefined as: $\uparrow = +, \quad \downarrow = -, \quad \rightarrow = \times, \quad \leftarrow = \div$

Find the value of: $7 \rightarrow 8 \uparrow 4 \downarrow 10 \leftarrow 2$

A) 55

B) 50

C) 52

D) 53

29. **Question:** Is the positive integer N divisible by 6?

Statement 1: N is divisible by 2.

Statement 2: N is divisible by 3.

Choose the correct option regarding the sufficiency of the statements:

A) Statement 1 alone is sufficient.

B) Both statements together are needed.

C) Statement 2 alone is sufficient.

D) Neither statement is sufficient even together.

30. In a Venn diagram, the **union** of two sets A and B — the total combined shaded area of both circles — represents:

A) Only the elements common to both A and B

B) Elements in A but not in B

C) Elements in B but not in A

D) All elements that belong to set A or set B or both

Solutions

Q1. Series: $1,\ 3,\ 7,\ 15,\ 31,\ ?$

Solution

Each term follows the pattern $2^n - 1$ for $n = 1, 2, 3, \ldots$:

$$2^1 - 1 = 1, \quad 2^2 - 1 = 3, \quad 2^3 - 1 = 7, \quad 2^4 - 1 = 15, \quad 2^5 - 1 = 31$$

The next term is $2^6 - 1 = 64 - 1 = \mathbf{63}$.

Answer: (B)

Q2. Letter series: A, B, D, G, K, ?

Solution

The differences between consecutive terms (measured by alphabetical positions) increase by 1 each step:

$$A(1) \xrightarrow{+1} B(2) \xrightarrow{+2} D(4) \xrightarrow{+3} G(7) \xrightarrow{+4} K(11) \xrightarrow{+5} P(16)$$

The next gap is $+5$, giving position $11 + 5 = 16$, which is the letter **P**.

Answer: (D)

Q3. Series: $6,\ 11,\ 21,\ 36,\ 56,\ ?$

Solution

Compute the successive differences:

$$11 - 6 = 5, \quad 21 - 11 = 10, \quad 36 - 21 = 15, \quad 56 - 36 = 20$$

The differences themselves increase by 5 each time. The next difference is $20 + 5 = 25$, so the missing number is $56 + 25 = \mathbf{81}$.

Answer: (C)

Q4. KING $\rightarrow$ LJOH; QUEEN $\rightarrow$?

Solution

The coding rule shifts each letter one position forward in the alphabet:

$$K \to L, \quad I \to J, \quad N \to O, \quad G \to H$$

Applying to QUEEN:

$$Q \to R, \quad U \to V, \quad E \to F, \quad E \to F, \quad N \to O$$

The coded form is **RVFFO**.

Answer: (A)

Q5. CAT $= 24$; BAT $=?$

Solution

Each letter is replaced by its alphabetical position and the values are summed.

For CAT: $C = 3,\ A = 1,\ T = 20 \Rightarrow 3 + 1 + 20 = 24$. (Verified.)

For BAT: $B = 2,\ A = 1,\ T = 20 \Rightarrow 2 + 1 + 20 =$ **23**.

Answer: (B)

Q6. How is Imran related to Zara? — "He is the son of the woman who is the mother of the husband of my mother."

Solution

Trace the relationship step by step:

- "Husband of my mother" = Zara's **father**.
- "Mother of the husband of my mother" = mother of Zara's father = Zara's **paternal grandmother**.
- "Son of Zara's paternal grandmother" (other than Zara's father himself) = Zara's father's brother = Zara's **uncle**.

Imran is Zara's **Uncle**.

Answer: (D)

Q7. How is the person in the photo related to Farhan? — "... the son of the

only son of my grandfather."

Solution

- "Only son of my grandfather" = Farhan's **father**.
- "Son of Farhan's father" = Farhan himself *or* his **brother**.

Since the person is introduced as someone other than Farhan, he is Farhan's **Brother**.

Answer: (C)

Q8. Nisha starts facing West; three turns: CW 90, CCW 180, CW 270. Final direction?

Solution

Using compass bearings (North $= 0$, East $= 90$, South $= 180$, West $= 270$), clockwise adds and counterclockwise subtracts:

(a) **Start:** West $= 270$.
(b) **CW** 90**:** $270 + 90 = 360 \equiv 0 =$ North.
(c) **CCW** 180**:** $0 - 180 = -180 \equiv 180 =$ South.
(d) **CW** 270**:** $180 + 270 = 450 \equiv 90 =$ **East**.

Nisha is finally facing **East**.

Answer: (A)

Q9. Vikram's journey: 15 m E, right $\rightarrow$ 10 m S, right $\rightarrow$ 15 m W, left $\rightarrow$ 10 m S. Displacement?

Solution

Resolve east–west and north–south displacements separately:

- **East–West:** $+15$ m (E) $-$ 15 m (W) $= 0$ (no net horizontal displacement).
- **North–South:** 10 m (S) $+$ 10 m (S) $=$ 20 m South.

Vikram is **20 m South** of his starting point.

Answer: (B)

Q10. Some phones are laptops; Some laptops are tablets. Do conclusions I and II follow?

Solution

Conclusion I (*Some phones are tablets*): The phones overlapping with laptops need not be the same laptops that overlap with tablets — there is no direct guaranteed link between phones and tablets. Does *not* necessarily follow.

Conclusion II (*All tablets are phones*): This is a universal positive claim not supported by the premises. Does *not* follow.

Neither conclusion follows.

Answer: (D)

Q11. All planets orbit the Sun; Earth is a planet. Do conclusions I and II follow?

Solution

Conclusion I (*Earth orbits the Sun*): Earth is a planet (given); all planets orbit the Sun (given). By direct syllogism, Earth orbits the Sun. **Follows.**

Conclusion II (*All things that orbit the Sun are planets*): The premises state that planets orbit the Sun, not that *only* planets do. This is an illicit conversion. Does *not* follow.

Only Conclusion I follows.

Answer: (C)

Q12. No fish can live on land; All dolphins are fish. Do conclusions I and II follow?

Solution

Conclusion I (*No dolphin can live on land*): All dolphins are fish; no fish lives on land; therefore no dolphin lives on land. Valid **universal negative** deduction. **Follows.**

Conclusion II (*Some fish cannot live on land*): In fact, *no* fish can live on land, which entails that *some* (indeed all) fish cannot live on land. The particular statement is a valid weaker inference from the universal. **Follows.**

Both conclusions follow.

Answer: (A)

Q13. "A stitch in time saves nine." Which conclusion follows?

Solution

Conclusion I (*Timely action prevents larger problems*): This is precisely the figurative meaning of the proverb — attending to a small problem promptly prevents it from becoming a much larger one. **Follows.**

Conclusion II (*Sewing clothes early in the morning is advisable*): This is a literal misreading; the proverb is not about needlework but about acting promptly in general. Does *not* follow.

Only Conclusion I follows.

Answer: (B)

Q14. "Classical music while studying may improve concentration." Which assumptions are implicit?

Solution

Assumption I (*A possible connection between music and concentration*): The statement explicitly postulates this link; it is the very basis of the claim. **Implicit.**

Assumption II (*Classical music may be more beneficial than other genres*): By specifically naming "classical" music rather than music in general, the statement implies a differential benefit. **Implicit.**

Both assumptions are implicit in the statement.

Answer: (D)

Q15. Should the internet be censored by the government? Evaluate the arguments.

Solution

Argument I (*Yes — to curb misinformation and hate speech*): This raises a genuine, well-documented societal concern about unregulated digital content. It is a substantive, non-trivial argument. **Strong.**

Argument II (*No — censorship violates freedom of expression*): This invokes a fundamental democratic and human-rights principle with broad legal and ethical backing. Equally substantive. **Strong.**

Both arguments are strong.

Answer: (C)

Q16. Severe water shortage in a city. Evaluate the courses of action.

Solution

Course I (*Public awareness campaign*): Reducing wasteful demand through education is a practical, low-cost, immediate measure that directly addresses the shortage. **Reasonable.**

Course II (*Build water treatment and supply infrastructure*): Increasing supply capacity is necessary for a sustainable long-term solution. **Reasonable.**

Addressing both the demand side and the supply side simultaneously constitutes a comprehensive strategy. **Both I and II** should be followed.

Answer: (A)

Q17. Eight people in a straight row. Who is at the 3rd position from the right?

Solution

Placing people using the clues:

Pos 1	Pos 2	Pos 3	Pos 4	Pos 5	Pos 6	Pos 7	Pos 8
A	B	C	E	D	F	G	H

The 3rd position from the right is position $8 - 3 + 1 = 6$, which is occupied by **F**.

Answer: (B)

Q18. Six people around a circular table. Who is directly opposite S?

Solution

Assign positions 1–6 clockwise using the clues:

Position	Person
1	Q (reference)
2	R (immediately right of Q)
3	S (immediately left of P, who is at position 4)
4	P (directly opposite Q, i.e. $1+3=4$)
5	T (directly opposite R, i.e. $2+3=5$)
6	U (remaining position)

In a 6-person circle, position directly opposite position 3 (S) is position $3+3=6$, which is **U**.

Answer: (D)

Q19. Five envelopes ranked by amount of money. Which is 3rd highest?

Solution

From the given clues, the complete descending order is:

$$\mathbf{T} > \mathbf{S} > \mathbf{R} > \mathbf{Q} > \mathbf{P}$$

Rank	Envelope
1st (highest)	T
2nd	S
3rd	**R**
4th	Q
5th (lowest)	P

The **3rd highest** amount is in envelope **R**.

Answer: (C)

Q20. Marathon : Running :: Chess : ?

Solution

A *Marathon* is a specific type of event within the sport of *Running*. By analogy, *Chess* is a specific type of game within the category of *Board games*. The relationship is: *specific instance* $\rightarrow$ *its broader category*.

Answer: **Board game**.

Answer: (A)

Q21. $121 : 11 \quad :: \quad 169 :?$

Solution

The relationship is that the second number is the square root of the first:

$$\sqrt{121} = 11 \qquad \Rightarrow \qquad \sqrt{169} = \mathbf{13}$$

Answer: (B)

Q22. Odd one out: France, Germany, Italy, Spain, Japan

Solution

France, Germany, Italy, and Spain are all **European** countries. **Japan** is an **Asian** country — it does not belong to the European group. Japan is the odd one out.

Answer: (D)

Q23. Odd one out: 3, 5, 7, 11, 14

Solution

3, 5, 7, and 11 are all **prime numbers** (divisible only by 1 and themselves).

$14 = 2 \times 7$ is a **composite number**. Therefore, **14** is the odd one out.

Answer: (C)

Q24. Statement: Most patients showed improved cholesterol after 3 months on the diet plan.

Solution

The statement reports a positive correlation observed in *most* patients. It is observational evidence, not a guarantee or universal cure.

- Option A says the plan "*may* help reduce cholesterol" — this is cautious and directly supported by the data. **Correct.**

- Options B, C, and D make sweeping, unsupported universal claims far beyond what the report states.

Answer: (A)

Q25. Statement: In a poll of 500, 65% preferred working from home.

Solution

The data directly and precisely states that 65% (a majority) of 500 *poll respondents* preferred remote work.

- Option B restates the data faithfully without extrapolating. **Correct.**
- Options A, C, and D extend far beyond the poll's scope — they make claims about all employees, productivity judgements, or declare offices obsolete.

Answer: (B)

Q26. Event I: Children fell ill after the mid-day meal. Event II: Poor kitchen hygiene found on inspection.

Solution

Chronologically and logically, **poor kitchen hygiene** (Event II) is the underlying condition that would cause food to become contaminated, leading to illness among the children who ate that food (Event I).

Event II is therefore the **cause** and Event I is the **effect**.

Answer: (D)

Q27. By how many degrees does the minute hand rotate in 5 minutes?

Solution

The minute hand completes one full revolution (360) in 60 minutes:

$$\text{Degrees per minute} = \frac{360}{60} = 6 \text{ per minute}$$

In 5 minutes: $5 \times 6 = \mathbf{30}$.

Answer: (C)

Q28. Evaluate: $7 \rightarrow 8 \uparrow 4 \downarrow 10 \leftarrow 2$

Solution

Substituting the defined symbols ($\rightarrow = \times, \uparrow = +, \downarrow = -, \leftarrow = \div$):

$$7 \times 8 + 4 - 10 \div 2$$

Applying the standard order of operations (multiplication and division before addition and subtraction):

$$7 \times 8 = 56, \qquad 10 \div 2 = 5$$

$$56 + 4 - 5 = 60 - 5 = \mathbf{55}$$

Answer: (A)

Q29. Is positive integer N divisible by 6? Evaluate Statements 1 and 2.

Solution

For N to be divisible by $6 = 2 \times 3$ (where $\gcd(2, 3) = 1$), N must be divisible by *both* 2 and 3.

Statement 1 alone (N divisible by 2): N could be 2, 4, 8, 10, ... — not necessarily divisible by 6. *Insufficient.*

Statement 2 alone (N divisible by 3): N could be 3, 9, 15, 21, ... — not necessarily divisible by 6. *Insufficient.*

Both together: N is divisible by both 2 and 3, so N is divisible by $\text{lcm}(2, 3) = 6$. *Sufficient.*

Both statements together are needed.

Answer: (B)

Q30. The union of sets A and B in a Venn diagram represents?

Solution

By definition, the **union** $A \cup B$ is the set of all elements that belong to A *or* to B *or to both*. In a Venn diagram this corresponds to the total combined area of both circles, including the overlapping region.

- Option A describes the *intersection* $A \cap B$.
- Option B describes the *set difference* $A \setminus B$.
- Option C describes the *set difference* $B \setminus A$.
- **Option D** correctly defines the union $A \cup B$.

Answer: (D)

Answer Key

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