

MH CET LAW Logical & Analytical Reasoning

Sample Paper – 8

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

Q1. Find the missing term in the series: 4, 8, 24, 96, 480, ?

- (A) 1440
- (B) 1920
- (C) 2400
- (D) 2880

Q2. Find the missing term in the series: A, C, F, J, O, ?

- (A) R
- (B) U
- (C) T
- (D) S

Q3. Find the missing term in the series: 3, 5, 9, 15, 23, ?

- (A) 33
- (B) 31



(C) 35

(D) 29

Q4. In a certain code language, JUMP is written as ITLO. Using the same code, how is KICK written?

(A) JIBK

(B) KHJB

(C) JHBJ

(D) KJBH

Q5. The value of a word is obtained by summing the positions of its letters in the English alphabet (A=1, B=2, ..., Z=26). Given that the value of STONE is 73, what is the value of SCORE?

(A) 57

(B) 58

(C) 59

(D) 60

Q6. Pointing to Vivek, **Harsh** says, "His mother's only brother is my father's only son." How is Harsh related to Vivek?

(A) Father

(B) Uncle

(C) Brother

(D) Cousin

Q7. **Mohan** points to a woman and says, "She is the sister of my father's only son." How is the woman related to Mohan?

(A) Sister

(B) Mother

(C) Cousin



(D) Wife

Q8. Kiran starts from a fixed point, walks 9 m towards North, then turns right and walks 12 m. How far is she from her starting point?

(A) 12 m

(B) 14 m

(C) 15 m

(D) 13 m

Q9. Jatin is initially facing South. He turns clockwise by 135° . In which direction is he now facing?

(A) Northeast

(B) East

(C) West

(D) Northwest

Q10. Statements:

All birds have feathers.

Ostriches are birds.

Conclusions:

I. Ostriches have feathers.

II. All feathered things are birds.

Which conclusion(s) follow(s)?

(A) Only II follows

(B) Only I follows

(C) Both I and II follow

(D) Neither I nor II follows

Q11. Statements:

Some computers are tablets.

Some tablets are phones.



Conclusions:

- I. Some computers are phones.
- II. No computer is a phone.

Which conclusion(s) follow(s)?

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

Q12. Statements:

- All trains are fast.
- All fast things are efficient.

Conclusions:

- I. All trains are efficient.
- II. Some efficient things are trains.

Which conclusion(s) follow(s)?

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

Q13. Statement: “Obesity rates are rising because people spend more time on screens and less time in physical activity.”

Conclusions:

- I. Reducing screen time and increasing physical activity may help address obesity.
- II. All obese people watch television all day.

Which conclusion(s) follow(s)?

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



(D) Only I follows

Q14. Statement: “Please submit your assignment before the deadline.”

Assumptions:

- I. Assignments submitted after the deadline may not be accepted.
- II. All students have already completed their assignments.

Which assumption(s) is/are implicit?

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

Q15. Statement: “Should students be given more homework?”

Arguments:

- I. Yes – homework does not serve any educational purpose whatsoever.
- II. No – homework is the sole and only cause of all poor mental health in students.

Which argument(s) is/are strong?

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

Q16. Problem: A river flowing through the city is heavily polluted by industrial waste.

Courses of Action:

- I. Arrest all residents living near the river.
- II. Impose strict regulations on industrial discharge and mandate effluent treatment systems for industries.

Which course(s) of action should be followed?

- (A) Only I



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

Q17. Five people — H, I, J, K and L — are seated in a row facing North, subject to the following conditions:

- H is at the leftmost end.
- I is immediately to the right of H.
- J is immediately to the right of I.
- L is at the rightmost end.
- K is between J and L.

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

- (A) K
- (B) I
- (C) H
- (D) J

Q18. Six people — F, G, H, I, J and K — are seated around a circular table, all facing the centre, subject to the following conditions:

- G is immediately to the right of F.
- H is immediately to the right of G.
- I is directly opposite F.
- J is immediately to the right of I.
- K occupies the remaining seat.

Who is immediately to the right of J?

- (A) H
- (B) K
- (C) F
- (D) I



Q19. Five items — **P, Q, R, S** and **T** — are ranked in descending order of weight, subject to the following conditions:

- Q is the heaviest.
- P is heavier than R.
- S is heavier than T but lighter than R.
- T is the lightest.

Which item is the **2nd heaviest**?

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

Q20. Eye : Spectacles :: Ear : ?

- (A) Tongue
- (B) Nose
- (C) Hearing aid
- (D) Medicine

Q21. 8 : 512 :: 4 : ?

- (A) 16
- (B) 32
- (C) 48
- (D) 64

Q22. Find the odd one out: **Silk Cotton Wool Nylon Linen**

- (A) Silk
- (B) Nylon
- (C) Linen
- (D) Cotton



Q23. Find the odd one out: 11 13 17 21 23

- (A) 21
- (B) 11
- (C) 13
- (D) 17

Q24. “After a mandatory helmet law was introduced, the city saw a 45% reduction in fatal motorcycle accidents.”

Which of the following conclusions is **best supported** by the above statement?

- (A) Helmets make motorcycles significantly slower.
- (B) All motorcycle accidents are now preventable.
- (C) The mandatory helmet law likely contributed to the reduction in fatal accidents.
- (D) Motorcycles should be banned completely.

Q25. Statement: “All 50 students who completed the online coding course in this cohort found employment within three months.”

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

- (A) Online coding courses always guarantee employment for everyone.
- (B) Coding is the only skill needed for employment.
- (C) All students in any coding field easily find jobs.
- (D) All students who completed this course in this cohort were employed within three months.

Q26. Study the two events below and identify the correct cause-effect relationship.

Event I: Heavy snowfall blocked the main highway for two days.

Event II: Several food-supply deliveries to the city were significantly delayed.

- (A) Event II is the cause of Event I.



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

Q27. What is the angle between the hour hand and the minute hand of a clock at **6:00**?

- (A) 180°
- (B) 90°
- (C) 120°
- (D) 150°

Q28. If the symbols are redefined as follows: $\diamond = \div$, $\clubsuit = +$, $\spadesuit = \times$, $\heartsuit = -$

Find the value of: $36 \diamond 9 \clubsuit 5 \spadesuit 3 \heartsuit 8$

- (A) 7
- (B) 9
- (C) 11
- (D) 13

Q29. Question: In how many days can A and B together complete a piece of work?

Statement 1: A alone can complete the work in 10 days.

Statement 2: B alone can complete the work in 15 days.

- (A) Statement 1 alone is sufficient; Statement 2 is not needed.
- (B) Statement 2 alone is sufficient; Statement 1 is not needed.
- (C) Either statement alone is sufficient.
- (D) Both statements together are needed; neither alone is sufficient.

Q30. Two overlapping circles represent the sets “**Doctors**” and “**Singers**” respectively. The **overlapping region** between the two circles represents people who are:



- (A) Only doctors
- (B) Both doctors and singers
- (C) Only singers
- (D) Neither doctors nor singers



Detailed Solutions**Answer: (D)****Solution****Q1 – Number Series (Successive integer multipliers)**

Series: 4, 8, 24, 96, 480, ?

Compute the ratio between consecutive terms:

$$\frac{8}{4} = 2, \quad \frac{24}{8} = 3, \quad \frac{96}{24} = 4, \quad \frac{480}{96} = 5, \quad \frac{?}{480} = 6$$

The multipliers are 2, 3, 4, 5, 6 (successive integers). Hence the next term is

$$480 \times 6 = 2880$$

Answer: (D) 2880**Answer: (B)****Solution****Q2 – Letter Series (Gaps increasing by 1)**

Series: A, C, F, J, O, ?

Convert each letter to its alphabet position:

$$A = 1, \quad C = 3 (+2), \quad F = 6 (+3), \quad J = 10 (+4), \quad O = 15 (+5), \quad ? = 15 + 6 = 21$$

The gaps increase by 1 each step: +2, +3, +4, +5, +6. The 21st letter of the alphabet is U.

Answer: (B) U**Answer: (A)****Solution****Q3 – Number Series (Differences increasing by 2)**

Series: 3, 5, 9, 15, 23, ?

Successive differences:

$$5 - 3 = 2, \quad 9 - 5 = 4, \quad 15 - 9 = 6, \quad 23 - 15 = 8, \quad ? - 23 = 10$$



The differences 2, 4, 6, 8, 10 are increasing by 2. Hence:

$$? = 23 + 10 = 33$$

Answer: (A) 33

Answer: (C)

Solution

Q4 – Coding-Decoding (Each letter replaced by its predecessor)

Each letter is shifted back by 1 position in the alphabet.

Verification with JUMP:

$$J \rightarrow I, \quad U \rightarrow T, \quad M \rightarrow L, \quad P \rightarrow O \quad \Rightarrow \quad \text{JUMP} \rightarrow \text{ITLO} \checkmark$$

Applying the same rule to KICK:

$$K \rightarrow J, \quad I \rightarrow H, \quad C \rightarrow B, \quad K \rightarrow J \quad \Rightarrow \quad \text{KICK} \rightarrow \text{JHBJ}$$

Answer: (C) JHBJ

Answer: (D)

Solution

Q5 – Alphabetical Position Sum

Verification with STONE:

$$S(19) + T(20) + O(15) + N(14) + E(5) = 73 \checkmark$$

Computing the value of SCORE:

$$S(19) + C(3) + O(15) + R(18) + E(5) = 19 + 3 + 15 + 18 + 5 = 60$$

Answer: (D) 60

Answer: (B)

Solution

Q6 – Blood Relations

Harsh says: “His (Vivek’s) mother’s only brother is my father’s only son.”



- Harsh's father's only son = **Harsh** himself (no other sons mentioned).
- Therefore, Vivek's mother's only brother = **Harsh**.
- A person who is the brother of one's mother is one's **maternal uncle**.

Harsh is Vivek's uncle.

Answer: (B) Uncle

Answer: (A)

Solution

Q7 – Blood Relations

Mohan says: "She is the sister of my father's only son."

- Mohan's father's only son = **Mohan** himself.
- Therefore, the woman is the sister of Mohan = **Mohan's sister**.

Answer: (A) Sister

Answer: (C)

Solution

Q8 – Direction Sense (Straight-line distance)

Kiran walks 9 m North, then turns right (East) and walks 12 m. This forms a right-angled triangle with legs 9 m and 12 m.

Applying the Pythagorean theorem:

$$d = \sqrt{9^2 + 12^2} = \sqrt{81 + 144} = \sqrt{225} = 15 \text{ m}$$

Answer: (C) 15 m

Answer: (D)

Solution

Q9 – Direction Sense (Final direction after rotation)



Using compass bearings (North = 0, East = 90, South = 180, West = 270):

Initial bearing (South) = 180

Clockwise rotation = +135

Final bearing = $180 + 135 = 315$

315 lies between West (270) and North (360), which corresponds to **Northwest**.

Answer: (D) Northwest

Answer: (B)

Solution

Q10 – Syllogism

Premises: (1) All birds have feathers. (2) Ostriches are birds.

Conclusion I: Ostriches have feathers.

Ostriches $\subseteq$ birds and birds $\subseteq$ feathered $\Rightarrow$ ostriches $\subseteq$ feathered. **Follows.**

Conclusion II: All feathered things are birds.

The premises state that all birds have feathers, not that all feathered things are birds. Feathers may exist independently in non-bird objects. **Does not follow.**

Answer: (B) Only I follows

Answer: (A)

Solution

Q11 – Syllogism

Premises: (1) Some computers are tablets. (2) Some tablets are phones.

Conclusion I: Some computers are phones.

The computers that overlap with tablets need not be the same tablets that overlap with phones. No definitive link between computers and phones can be established. **Does not necessarily follow.**

Conclusion II: No computer is a phone.

This too cannot be definitively established from the given premises. **Does not follow.**

Answer: (A) Neither I nor II follows

Answer: (C)



Solution**Q12 – Syllogism**

Premises: (1) All trains are fast. (2) All fast things are efficient.

Conclusion I: All trains are efficient.

By transitivity: trains $\subseteq$ fast and fast $\subseteq$ efficient $\Rightarrow$ trains $\subseteq$ efficient. **Follows.**

Conclusion II: Some efficient things are trains.

Since all trains are efficient, some efficient things (namely trains themselves) are trains. This is the particular affirmative derived from the universal. **Follows.**

Answer: (C) Both I and II follow

Answer: (D)

Solution**Q13 – Statement-Conclusion**

Statement: “Obesity rates are rising because people spend more time on screens and less time in physical activity.”

Conclusion I: Reducing screen time and increasing physical activity may help address obesity.

This is a direct and reasonable inference from the stated cause-effect relationship. **Follows.**

Conclusion II: All obese people watch television all day.

The statement refers to a general population trend and does not make any absolute claim about every obese individual. **Does not follow.**

Answer: (D) Only I follows

Answer: (B)

Solution**Q14 – Statement-Assumption**

Statement: “Please submit your assignment before the deadline.”

Assumption I: Assignments submitted after the deadline may not be accepted.

The instruction to submit *before* the deadline is meaningful only if there is a consequence for late submission (e.g., non-acceptance). This assumption is implicit and necessary. **Implicit.**

Assumption II: All students have already completed their assignments.

The statement does not presuppose anything about whether all students have completed their work. **Not implicit.**



Answer: (B) Only I is implicit

Answer: (A)

Solution

Q15 – Statement-Argument

Statement: “Should students be given more homework?”

Argument I: “Yes – homework does not serve any educational purpose whatsoever.”

This claim is factually incorrect and uses absolute language (“whatsoever”). Research and practice widely support the educational value of homework. **Not a strong argument.**

Argument II: “No – homework is the sole and only cause of all poor mental health in students.”

Poor mental health among students has multiple causes. Attributing it entirely and exclusively to homework is an extreme and unsupported generalisation. **Not a strong argument.**

Both arguments are weak because they rely on absolute, unsubstantiated claims.

Answer: (A) Neither I nor II is strong

Answer: (C)

Solution

Q16 – Course of Action

Problem: A river is heavily polluted by industrial waste.

Course I: Arrest all residents living near the river.

Residents are not responsible for industrial pollution. Arresting them is irrelevant, unjust, and does nothing to address the root cause. **Should not be followed.**

Course II: Impose strict regulations on industrial discharge and mandate effluent treatment systems.

This directly targets the source of pollution (industries), is practical, enforceable, and addresses the root cause effectively. **Should be followed.**

Answer: (C) Only II

Answer: (D)

Solution

Q17 – Linear Seating Arrangement

Positions 1 (leftmost) to 5 (rightmost):



Pos 1	Pos 2	Pos 3	Pos 4	Pos 5
H	I	J	K	L

Verification:

- H at the leftmost end (Pos 1). ✓
- I immediately right of H (Pos 2). ✓
- J immediately right of I (Pos 3). ✓
- L at the rightmost end (Pos 5). ✓
- K between J and L (Pos 4). ✓

3rd position from the right = $5 - 3 + 1 = \text{Position } 3 = \text{J}$.

Answer: (D) J

Answer: (B)

Solution

Q18 – Circular Seating Arrangement

Place F at reference position 1 and build clockwise:

Clockwise Position	Person
1	F (reference)
2	G (immediately right of F)
3	H (immediately right of G)
4	I (directly opposite F; in 6 seats, opposite = $1 + 3 = 4$)
5	J (immediately right of I)
6	K (only remaining seat)

Immediately to the right of J (position 5) is position 6 = K.

Answer: (B) K

Answer: (A)

Solution

Q19 – Ranking / Weight Puzzle

From the clues:

- Q is heaviest $\Rightarrow$ Rank 1: Q.



- T is lightest $\Rightarrow$ Rank 5: T.
- S is heavier than T but lighter than R $\Rightarrow R > S > T$, so Rank 3: R, Rank 4: S.
- P is heavier than R $\Rightarrow$ Rank 2: P.

Final order: $Q > P > R > S > T$

The **2nd heaviest** is **P**.

Answer: (A) P

Answer: (C)

Solution

Q20 – Word Analogy

Eye : Spectacles – Spectacles are a corrective/assistive device for the *eye* that improves or compensates for impaired vision.

By the same logic, **Ear : ?** – the corrective/assistive device for the *ear* that improves or compensates for impaired hearing is a **Hearing Aid**.

Answer: (C) Hearing aid

Answer: (D)

Solution

Q21 – Number Analogy

8 : 512 — $8^3 = 512$. The relationship is: second number = (first number)³.

Applying the same rule to **4**:

$$4^3 = 4 \times 4 \times 4 = 64$$

Answer: (D) 64

Answer: (B)

Solution

Q22 – Classification: Odd One Out (Fibres)



Fibre	Type
Silk	Natural (from silkworms)
Cotton	Natural (from cotton plants)
Wool	Natural (from sheep)
Nylon	Synthetic (man-made from petrochemicals)
Linen	Natural (from flax plants)

All others are natural fibres. **Nylon** is the only synthetic fibre and is the odd one out.

Answer: (B) Nylon

Answer: (A)

Solution

Q23 – Classification: Odd One Out (Numbers)

Check primality:

- 11 – prime ✓
- 13 – prime ✓
- 17 – prime ✓
- $21 = 3 \times 7$ – **composite (not prime)**
- 23 – prime ✓

All numbers except 21 are prime. **21** is the odd one out.

Answer: (A) 21

Answer: (C)

Solution

Q24 – Critical Reasoning

Statement: “After a mandatory helmet law was introduced, the city saw a 45% reduction in fatal motorcycle accidents.”

(A) Helmets make motorcycles significantly slower. – Not supported; no mention of speed.

(B) All motorcycle accidents are now preventable. – Extreme and unsupported claim.

(C) The mandatory helmet law likely contributed to the reduction in fatal accidents. – This is a well-grounded causal inference: the reduction followed the introduc-



tion of the law, making a causal link plausible. **Best supported.**

(D) Motorcycles should be banned completely. – Far too extreme; not supported by the data.

Answer: (C) The mandatory helmet law likely contributed to the reduction in fatal accidents.

Answer: (D)

Solution

Q25 – Statement and Inference

Statement: “All 50 students who completed the online coding course in this cohort found employment within three months.”

(A) “Always guarantee employment for everyone” – overgeneralises beyond this cohort. **Not strongest.**

(B) “Coding is the only skill needed” – not stated anywhere. **Not supported.**

(C) “All students in any coding field easily find jobs” – extends far beyond the scope of the statement. **Not supported.**

(D) “All students who completed this course in this cohort were employed within three months” – this is a precise, direct restatement of the given information without over-generalisation. **Strongest conclusion.**

Answer: (D) All students who completed this course in this cohort were employed within three months.

Answer: (B)

Solution

Q26 – Cause and Effect

Event I: Heavy snowfall blocked the main highway for two days.

Event II: Several food-supply deliveries to the city were significantly delayed.

Logical chain: Heavy snowfall → blocked highway (Event I) → supply trucks unable to pass → delayed deliveries (Event II).

Event I is the direct cause of Event II. The converse (Event II causing Event I) makes no sense.

Answer: (B) Event I is the cause of Event II.

Answer: (A)



Solution**Q27 – Clock Problem**

At 6:00:

- The **hour hand** points to 6, which is $\frac{6}{12} \times 360 = 180$ from the 12.
- The **minute hand** points to 12 (0 minutes elapsed), which is at 0.

$$\text{Angle between hands} = |180 - 0| = 180$$

The two hands are diametrically opposite, forming a straight line.

Answer: (A) 180°**Answer: (C)****Solution****Q28 – Mathematical Operations (Symbol Substitution)**

Substituting the symbols:

$$36 \diamond 9 \clubsuit 5 \spadesuit 3 \heartsuit 8 = 36 \div 9 + 5 \times 3 - 8$$

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

$$= 4 + 15 - 8 = 19 - 8 = 11$$

Answer: (C) 11**Answer: (D)****Solution****Q29 – Data Sufficiency****Statement 1 alone** (A completes the work alone in 10 days):A's rate = $\frac{1}{10}$ work/day. B's rate is unknown. **Insufficient.****Statement 2 alone** (B completes the work alone in 15 days):B's rate = $\frac{1}{15}$ work/day. A's rate is unknown. **Insufficient.****Both statements together:**

$$\text{Combined rate} = \frac{1}{10} + \frac{1}{15} = \frac{3}{30} + \frac{2}{30} = \frac{5}{30} = \frac{1}{6} \text{ work/day}$$

$$\text{Time for A and B together} = 6 \text{ days}$$

Both statements together are necessary and sufficient.



Answer: (D) Both statements together are needed; neither alone is sufficient.

Answer: (B)

Solution

Q30 – Venn Diagram

In a two-circle Venn diagram for “Doctors” and “Singers”:

- Region inside *only* the Doctors circle = people who are only doctors (not singers).
- Region inside *only* the Singers circle = people who are only singers (not doctors).
- **Overlapping (intersection) region** = people who belong to *both* sets, i.e., **both doctors and singers**.
- Region outside both circles = people who are neither doctors nor singers.

Answer: (B) Both doctors and singers



Answer Key

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

For detailed solutions with explanations, refer to the Solutions section above.

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