

MAH MBA CET 2026 May 9 Shift 2

Question Paper with Solutions (Memory-Based)

Conducted by Maharashtra State CET Cell



General Instructions

- (i) MAH CET Question Paper typically consists of 200 multiple-choice questions, with a duration of 2.5 hours (150 minutes).
- (ii) The total maximum score in the exam is 200 marks.
- (iii) MAH CET Exam is an objective-type, multiple-choice test, including logical reasoning, quantitative aptitude, and verbal ability.
- (iv) Each correct answer is given as 1 mark, and there is no negative marking for incorrect answers.

1. If the angle between the clock hands is 60° , which of the following times is possible?

- (A) 2:00
- (B) 3:00
- (C) 4:00
- (D) 6:00

Correct Answer: (A) 2:00

Solution:

Step 1: Understanding the Question:

We need to find out at which of the given times the angle between the hour hand and the minute hand of a standard clock is exactly 60° .

Step 2: Key Formula or Approach:

The angle θ between the hands of a clock at H hours and M minutes is given by the formula:

$$\theta = |30H - 5.5M|$$

Alternatively, for whole hours (where $M = 0$), the hour hand is pointing exactly at the hour mark, and the minute hand is at 12. Since each hour mark represents 30° ($360^\circ/12 = 30^\circ$), the angle is simply $30^\circ \times H$.

Step 3: Detailed Explanation:

Let us systematically check the angle for each given option:

For 2:00 ($H = 2, M = 0$):

$$\theta = 30^\circ \times 2 = 60^\circ$$

For 3:00 ($H = 3, M = 0$):

$$\theta = 30^\circ \times 3 = 90^\circ$$

For 4:00 ($H = 4, M = 0$):

$$\theta = 30^\circ \times 4 = 120^\circ$$

For 6:00 ($H = 6, M = 0$):

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

Only at 2:00 is the angle between the clock hands exactly 60° .

Step 4: Final Answer:

The correct time is 2:00.

Quick Tip: For any time that is exactly on the hour (e.g., 2:00, 3:00, 4:00), the angle is simply the hour value multiplied by 30° .

2. Puppy : Dog :: Calf : ?

- (A) Horse
- (B) Cow
- (C) Cat
- (D) Lion

Correct Answer: (B) Cow

Solution:

Step 1: Understanding the Question:

This is a word analogy question where we need to identify the underlying relationship between the first pair of words and apply that same relationship to the second pair to find the missing word.

Step 2: Detailed Explanation:

The relationship in the first pair, "Puppy : Dog", is that of a young one to its corresponding adult form. A puppy is the young offspring of a dog.

Applying this exact logic to "Calf : ?", we need to find the adult animal whose young one is called a calf.

A calf is widely known as the young offspring of a cow.

Let's verify the other options to be absolutely sure:

- The young one of a horse is called a foal or a colt.
- The young one of a cat is called a kitten.
- The young one of a lion is called a cub.

Therefore, "Cow" is the correct matching pair.

Step 3: Final Answer:

The correct answer is Cow.

Quick Tip: In word analogy problems, always formulate a clear sentence defining the relationship between the first pair, such as "A [Puppy] is a young [Dog]", and apply it exactly to the second pair.

3. Light : Darkness :: Knowledge : ?

- (A) Teacher
- (B) Ignorance
- (C) Wisdom
- (D) Education

Correct Answer: (B) Ignorance

Solution:

Step 1: Understanding the Question:

This is an analogy question that requires us to find the logical relationship between the first pair of words and apply the exact same logic to the second word to find its appropriate pair.

Step 2: Detailed Explanation:

The words in the first pair are "Light" and "Darkness". The relationship between them is that they are antonyms (exact opposites). Darkness is formally defined as the absence of light.

Similarly, we need to find the antonym for "Knowledge".

The state of lacking or having an absence of knowledge is defined as ignorance. Therefore, "Ignorance" is the exact opposite of "Knowledge".

Let's look at the other options:

- "Teacher" is a person who imparts knowledge.
- "Wisdom" is a higher state of applied knowledge, not its opposite.
- "Education" is the process of acquiring knowledge.

Only "Ignorance" perfectly fits the antonym relationship.

Step 3: Final Answer:

The correct word is Ignorance.

Quick Tip: When dealing with abstract nouns in analogies, frequently check for synonym/antonym relationships or cause/effect relationships before exploring complex associations.

4. If X is the brother of the son of Y's son, then how is X related to Y?

- (A) Brother
- (B) Cousin
- (C) Son
- (D) Grandson
- (E) Uncle

Correct Answer: (D) Grandson

Solution:

Step 1: Understanding the Question:

This is a blood relation problem. We need to trace the family tree backwards from Y to determine the relationship of X to Y based on the given descriptive statement.

Step 2: Detailed Explanation:

Let's break down the complex phrase "the son of Y's son" step by step:

1. "Y's son" refers to a male child of Y in the first generation below Y (let's refer to him as S1).
2. "The son of Y's son" translates to the male child of S1. Since S1 is the son of Y, S1's son represents the second generation below Y, which is the grandson of Y.

Now substitute this simplified relationship back into the first part of the statement:

"X is the brother of [Y's grandson]".

If X is the brother of Y's grandson, then X and the grandson share the same parents (S1 and his spouse).

Therefore, X is also a son of S1.

Since S1 is the direct son of Y, X is consequently the grandson of Y.

Step 3: Final Answer:

X is the grandson of Y.

Quick Tip: Break down complex blood relation phrases from right to left (starting from the person mentioned last) to simplify the family tree step-by-step.

5. The post office is to the east of the school while my house is to the south of the school. The market is to the north of the post office. If the distance of the market from the post office is equal to the distance of my house from the school, in which direction is the market with respect to my school?

- (A) South-west
- (B) North-east
- (C) North
- (D) East

Correct Answer: (B) North-east

Solution:

Step 1: Understanding the Question:

This is a direction sense problem involving relative positions and distances. We need to find the final direction of the market relative to the school based on the given geographical placements.

Step 2: Key Formula or Approach:

We can map the locations on a standard Cartesian coordinate system (x, y) , where the East is the positive x -axis, West is the negative x -axis, North is the positive y -axis, and South is the negative y -axis.

Step 3: Detailed Explanation:

Let the school be located at the origin $(0, 0)$.

1. The post office is to the east of the school. Let its coordinates be $(d, 0)$, where $d > 0$.
2. The house is to the south of the school. Let its coordinates be $(0, -y)$, where $y > 0$. The straight-line distance from the house to the school is simply y .

3. The market is to the north of the post office. Since it is directly north of the post office $(d, 0)$, its x-coordinate remains d . Let its coordinates be (d, m) , where $m > 0$. The straight-line distance from the market to the post office is m .

We are explicitly given that the distance of the market from the post office equals the distance of the house from the school. Therefore, $m = y$.

So, the market is located exactly at the coordinate (d, y) .

Now, we need to find the direction of the market (d, y) with respect to the school $(0, 0)$.

Since $d > 0$ (indicating East) and $y > 0$ (indicating North), the vector pointing from the school to the market lies squarely in the first quadrant.

This combined direction corresponds to North-east.

Step 4: Final Answer:

The market is in the North-east direction with respect to the school.

Quick Tip: Using a simple coordinate plane (x, y) with the starting point at the origin $(0, 0)$ is the most foolproof way to solve complex direction and distance problems.

6. Statements:

No tablets are desktops.

Some computers are tablets.

Conclusion?

- (A) Some computers are desktops.
- (B) Some computers are not desktops.
- (C) All computers are desktops.
- (D) No desktops are computers.

Correct Answer: (B) Some computers are not desktops.

Solution:

Step 1: Understanding the Question:

This is a logical reasoning problem based on syllogism. We need to determine which provided conclusion logically and definitively follows from the given two statements.

Step 2: Detailed Explanation:

Let's thoroughly analyze the given statements using set theory concepts (or Venn diagrams).

1. "No tablets are desktops" logically means that the set of Tablets (T) and the set of Desktops (D) are completely disjoint. There is absolutely no intersection between them ($T \cap D = \emptyset$).
2. "Some computers are tablets" means there is a definite intersection between the set of Computers (C) and the set of Tablets (T). At least some elements exist that are simultaneously both computers and tablets.

Now let's evaluate the inevitable outcome:

Because some computers are firmly within the tablet set, and absolutely no tablets can ever be desktops, those specific computers which are tablets can never be desktops.

Therefore, it logically follows that there is at least a portion of the computer set that falls entirely outside the desktop set boundaries.

This makes the conclusion "Some computers are not desktops" definitively and undeniably true.

Let's quickly check why the other options fail:

- (A) Some computers are desktops: This is merely a possibility, but not a definite conclusion guaranteed by the statements.
- (C) All computers are desktops: This directly contradicts our proven conclusion that some are not.
- (D) No desktops are computers: We don't have enough restricting information to conclude this; some computers outside the tablet circle might still intersect with the desktop circle.

Step 3: Final Answer:

The correct conclusion is "Some computers are not desktops."

Quick Tip: When dealing with syllogisms, a conclusion is only true if it holds true in every possible Venn diagram you can draw that satisfies the statements.

7. Which of the following numbers is a perfect square?

- (A) 4410
- (B) 2362
- (C) 7921
- (D) 5688
- (E) 1253

Correct Answer: (C) 7921

Solution:

Step 1: Understanding the Question:

We need to confidently identify the perfect square among the given five numbers. A perfect square is an integer that is the product of an integer multiplied by itself.

Step 2: Key Formula or Approach:

We can efficiently eliminate numbers that cannot be perfect squares by observing their unit digits. The unit digit of any perfect square can only ever be 0, 1, 4, 5, 6, or 9.

Additionally, if a perfect square ends in the digit 0, it must end in an even number of zeros (e.g., 00, 0000).

Step 3: Detailed Explanation:

Let's check the unit digit of each given option systematically:

- (B) 2362 ends in 2. It is mathematically impossible for it to be a perfect square.
- (D) 5688 ends in 8. It is mathematically impossible for it to be a perfect square.
- (E) 1253 ends in 3. It is mathematically impossible for it to be a perfect square.

We are now left with options (A) 4410 and (C) 7921.

- (A) 4410 ends in a single zero. As established, a perfect square ending in zero must have an even number of trailing zeros. Thus, 4410 is not a perfect square (though 441 is 21^2 , 4410 is $21^2 \times 10$).

- By process of elimination, (C) 7921 must be the correct perfect square.

To verify this conclusively, let's estimate its square root. We know that $80^2 = 6400$ and $90^2 = 8100$. The number 7921 is very close to 8100 and ends in 1, meaning its square root

must end in 1 or 9. Let's test 89:

$$89^2 = (90 - 1)^2 = 90^2 - 2(90)(1) + 1^2 = 8100 - 180 + 1 = 7921$$

Thus, 7921 is indeed the perfect square of 89.

Step 4: Final Answer:

The perfect square is 7921.

Quick Tip: Always remember: No perfect square will ever end with the digits 2, 3, 7, or 8, nor will it ever have an odd number of trailing zeros.

8. A batsman has a certain average of runs for 11 innings. In the 12th inning. He makes a score of 90 runs, thereby increasing his average by 5. His new average is:

- (A) 30
- (B) 40
- (C) 45
- (D) 50
- (E) 35

Correct Answer: (E) 35

Solution:

Step 1: Understanding the Question:

The problem describes a scenario where a batsman's average score increases after playing an additional inning. We need to find his updated (new) average after the 12th inning.

Step 2: Key Formula or Approach:

The fundamental mathematical formula for an average is:

$$\text{Average} = \frac{\text{Sum of Observations}}{\text{Number of Observations}}$$

We can set up a linear algebraic equation using the given relationship between the old average and the new average.

Step 3: Detailed Explanation:

Let the batsman's average for the first 11 innings be x .

The total runs scored in the first 11 innings is $11x$.

In the 12th inning, he scores exactly 90 runs.

So, the total sum of runs scored across all 12 innings becomes $11x + 90$.

The problem states that the new average after 12 innings is $x + 5$.

Using the average formula for the 12 innings:

$$\frac{11x + 90}{12} = x + 5$$

Multiply both sides of the equation by 12 to eliminate the denominator:

$$11x + 90 = 12(x + 5)$$

$$11x + 90 = 12x + 60$$

Subtract $11x$ from both sides to isolate x :

$$90 = x + 60$$

Subtract 60 from both sides:

$$x = 30$$

So, the old average for the first 11 innings was 30.

Read the question carefully: It asks for his **new average**.

$$\text{New average} = x + 5 = 30 + 5 = 35.$$

Step 4: Final Answer:

The new average of the batsman is 35.

Quick Tip: Shortcut formula for the old average: $\text{Old Average} = \text{New Score} - (\text{Total Innings} \times \text{Increase in Average}) = 90 - (12 \times 5) = 90 - 60 = 30$. Therefore, the new average is $30 + 5 = 35$.

9. The average age of 15 students is 18 years. If the teacher's age is added, the average increases by 1 year. What is the teacher's age?

- (A) 32 years
- (B) 34 years
- (C) 35 years
- (D) 33 years
- (E) 30 years

Correct Answer: (B) 34 years

Solution:

Step 1: Understanding the Question:

We are given the initial average age of a group of students. When a new person (the teacher) joins the group, the overall average increases. We need to calculate the exact age of the teacher.

Step 2: Key Formula or Approach:

We rely on the fundamental property of averages:

$$\text{Total Sum} = \text{Average} \times \text{Number of Items}$$

The teacher's age is simply the difference between the new total age of the 16 individuals and the old total age of the 15 students.

Step 3: Detailed Explanation:

First, let's calculate the total sum of the ages of the 15 students:

$$\text{Total age of students} = 15 \times 18 = 270 \text{ years}$$

When the teacher is included, the total number of people in the group becomes $15 + 1 = 16$.

The new average age increases by 1 year, making it $18 + 1 = 19$ years.

Now, calculate the new total age of all 16 individuals:

$$\text{Total age including teacher} = 16 \times 19 = 304 \text{ years}$$

The teacher's exact age is the difference between these two totals:

$$\text{Teacher's age} = 304 - 270 = 34 \text{ years}$$

Step 4: Final Answer:

The teacher's age is 34 years.

Quick Tip: You can solve this mentally in seconds using the deviation method: The teacher must bring 18 years to maintain the old average, plus an extra 16 years (1 year for each of the 16 people now present) to raise the average by 1. So, $18 + 16 = 34$.