

MAH B.P.Ed CET – Mental Ability

Sample Paper 6 of 8

Time Allowed: 18 Minutes | Total Marks: 15 | No. of Questions: 15 | Mode:
Online CBT

Marking Scheme: +1 for correct answer | No Negative Marking

Instructions

1. This paper contains **15 questions**, each carrying **1 mark** (Total: 15 marks).
2. Each question has **four options** (A, B, C, D). Choose the **single correct** answer.
3. **+1** mark is awarded for every correct response.
4. There is **no negative marking** for incorrect or unattempted answers.
5. Total time allotted: **18 minutes**. Manage your time carefully.
6. This examination is conducted in **Online CBT** (Computer-Based Test) mode.

Mental Ability—Questions 1 to 15

Q1. What is the next term in the series?

2, 3, 5, 7, 11, _____

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

Q2. What is the next term in the series?

A, B, D, G, K, _____

- (A) M
- (B) N
- (C) O



(D) P

Q3. What is the next term in the series?

0, 1, 3, 6, 10, _____

(A) 15

(B) 13

(C) 14

(D) 16

Q4. Complete the analogy:

Painter : Brush :: Sculptor : _____

(A) Clay

(B) Stone

(C) **Chisel**

(D) Canvas

Q5. Complete the analogy:

6 : 216 :: 5 : _____

(A) 100

(B) **125**

(C) 150

(D) 625

Q6. In a certain code language, BIRD is written as CJSE. How is FISH coded in that language?

(A) GJRH

(B) FITI

(C) GJTJ



(D) **GJTI**

Q7. If COIN = 41 (using the rule: each letter is assigned its position in the alphabet, $A = 1, B = 2, \dots, Z = 26$; the code equals the *sum* of all position values), what is the code for DESK?

(A) **39**

(B) 40

(C) 42

(D) 43

Q8. Find the **odd one out**:

(A) Rose

(B) Jasmine

(C) **Eucalyptus**

(D) Lotus

Q9. Find the **odd one out** among the following numbers:

(A) 8

(B) **100**

(C) 27

(D) 64

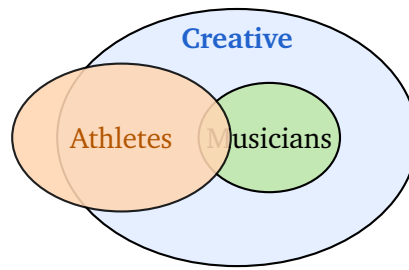
Q10. Statements:

1. Some athletes are musicians.
2. All musicians are creative.

Conclusions:

- I. All athletes are creative.
- II. Some athletes are creative.





- (A) Only I follows
- (B) **Only II follows**
- (C) Both I and II follow
- (D) Neither follows

Q11. Statements:

- 1. Some books are pens.
- 2. Some pens are pencils.

Conclusions:

- I. Some books are pencils.
- II. All pencils are books.

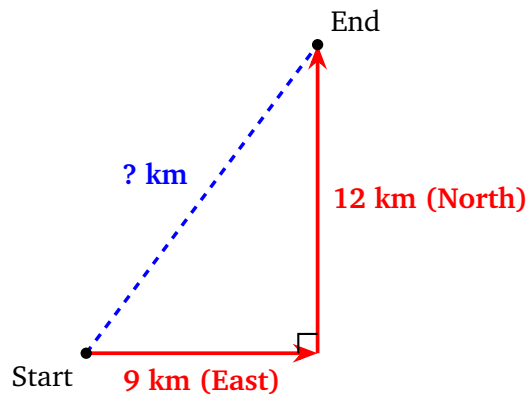
- (A) Only I follows
- (B) Only II follows
- (C) Both I and II follow
- (D) **Neither follows**

Q12. Sita is Rama's wife. Rama's brother is Lakshman. What is Lakshman's relation to Sita?

- (A) Brother
- (B) Sister
- (C) **Brother-in-law**
- (D) Uncle

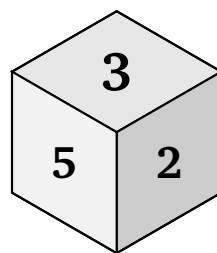


Q13. Mohan starts from a point, walks **9 km towards East**, then turns left and walks **12 km towards North**. What is the straight-line distance from his starting point to his current position?



- (A) 12 km
- (B) **15 km**
- (C) 21 km
- (D) 9 km

Q14. On a standard die, opposite faces always sum to 7. If the top face shows **3**, what number appears on the **bottom face**?

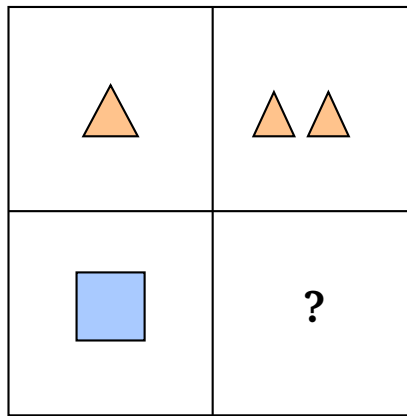


(Top face = 3)

- (A) 4
- (B) 2
- (C) 5
- (D) 6

Q15. Study the 2×2 pattern matrix below and find the figure that should replace the question mark (?).





- (A) $\triangle$ (one triangle)
(B) $\square$ (one square)
(C) $\triangle \triangle$ (two triangles)
(D) $\square \square$ (two squares)



Detailed Solutions

Sol. 1.

Solution

Answer: (B)**Series Type:** Prime Numbers

The series 2, 3, 5, 7, 11, ... consists of successive **prime numbers** (integers greater than 1 whose only divisors are 1 and themselves).

2, 3, 5, 7, 11, **13**, 17, ...

After 11, the candidate 12 is composite ($12 = 2 \times 6$). The next prime is **13** (divisible only by 1 and 13).

Answer: (B) 13

Sol. 2.

Solution

Answer: (D)**Series Type:** Letter Series with Increasing Gaps

Convert each letter to its alphabet position:

Letter	A	B	D	G	K	P
Position	1	2	4	7	11	16
Gap		+1	+2	+3	+4	+5

Each gap increases by 1. The next gap is +5, giving $11 + 5 = 16$.

Alphabet position 16 is the letter **P**.

Answer: (D) P

Sol. 3.

Solution**Answer: (A)****Series Type:** Triangular Numbers (starting from zero)

Term	0	1	3	6	10	15
Gap		+1	+2	+3	+4	+5

Each difference increases by 1. Next difference = 5, so next term = $10 + 5 = 15$.

(These are the triangular numbers: $T_n = \frac{n(n+1)}{2}$; $T_0 = 0$, $T_1 = 1$, $T_2 = 3$, $T_3 = 6$, $T_4 = 10$, $T_5 = 15$.)

Answer: (A) 15

Sol. 4.

Solution**Answer: (C)****Analogy Type:** Artist → Primary Tool

$$\underbrace{\text{Painter}}_{\text{artist}} : \underbrace{\text{Brush}}_{\text{primary tool}} :: \underbrace{\text{Sculptor}}_{\text{artist}} : \underbrace{?}_{\text{primary tool}}$$

A painter's primary tool is a **brush**. A sculptor's primary tool is a **chisel** (used to carve and shape stone, wood, or metal).

- Clay, Stone → *materials* worked by a sculptor, not tools.
- Canvas → a surface used by painters.
- Chisel → the sculptor's cutting and carving instrument. ✓

Answer: (C) Chisel

Sol. 5.

Solution**Answer: (B)****Analogy Type:** Number $\rightarrow$ Cube ($x : x^3$)

$$6 : 6^3 = 6 : 216 \quad \checkmark$$

$$5 : 5^3 = 5 : 125$$

Verification: $5^3 = 5 \times 5 \times 5 = 25 \times 5 = 125$.**Answer: (B) 125**

Sol. 6.

Solution**Answer: (D)****Coding Type:** Letter Shift +1Each letter in the word is replaced by the **next letter** in the alphabet.Verification with BIRD $\rightarrow$ CJSE:

$$B(2) \xrightarrow{+1} C(3), \quad I(9) \xrightarrow{+1} J(10), \quad R(18) \xrightarrow{+1} S(19), \quad D(4) \xrightarrow{+1} E(5) \quad \checkmark$$

Applying to FISH:

$$F(6) \xrightarrow{+1} G(7), \quad I(9) \xrightarrow{+1} J(10), \quad S(19) \xrightarrow{+1} T(20), \quad H(8) \xrightarrow{+1} I(9)$$

Code for FISH = **GJTI**.**Answer: (D) GJTI**

Sol. 7.

Solution**Answer: (A)****Coding Type:** Alphabetic Position SumRule: Code = sum of position values of each letter ($A = 1, B = 2, \dots, Z = 26$).

Verification: COIN

$$C(3) + O(15) + I(9) + N(14) = 3 + 15 + 9 + 14 = 41 \quad \checkmark$$

Applying to DESK:

$$D(4) + E(5) + S(19) + K(11) = 4 + 5 + 19 + 11 = 39$$

Answer: (A) 39

Sol. 8.

Solution

Answer: (C)

Classification: Flowering Plant vs. Tree

- **Rose** – a flowering shrub; prized for its colourful blooms.
- **Jasmine** – a flowering vine/shrub; valued for its fragrant flowers.
- **Lotus** – a flowering aquatic plant; iconic for its large, beautiful bloom.
- **Eucalyptus** – a tall, fast-growing *tree* known for its timber and essential oil; it is **not** an ornamental flowering plant.

Rose, Jasmine, and Lotus are all **flowering plants** grouped by their flowers. Eucalyptus is a **tree** and does not belong to this category.

Answer: (C) Eucalyptus

Sol. 9.

Solution

Answer: (B)

Classification: Perfect Cubes

Number	Expression	Perfect Cube?
8	2^3	Yes ✓
27	3^3	Yes ✓
64	4^3	Yes ✓
100	10^2	No ×



8, 27, and 64 are all perfect cubes. The number **100** is a perfect *square* ($10^2 = 100$) but is *not* a perfect cube (since $4^3 = 64$ and $5^3 = 125$; there is no integer n with $n^3 = 100$).

Answer: (B) 100

Sol. 10.

Solution

Answer: (B)

Syllogism Analysis

Premise 1: Some athletes are musicians. $\Rightarrow \text{Athletes} \cap \text{Musicians} \neq \emptyset$

Premise 2: All musicians are creative. $\Rightarrow \text{Musicians} \subseteq \text{Creative}$

Conclusion I – “All athletes are creative”: Does NOT follow.

Only *some* athletes are musicians. Athletes outside the musicians set may or may not be creative. A universal conclusion about all athletes cannot be drawn.

Conclusion II – “Some athletes are creative”: Follows.

Those athletes who *are* musicians are definitely creative (all musicians are creative). Hence at least some athletes are creative.

Only **Conclusion II** follows.

Answer: (B) Only II follows

Sol. 11.

Solution

Answer: (D)

Syllogism Analysis

Premise 1: Some books are pens. (Particular affirmative)

Premise 2: Some pens are pencils. (Particular affirmative)

When **both premises are particular**, no definite conclusion about the relationship between the first term (books) and the third term (pencils) can be established.

Conclusion I – “Some books are pencils”: Does NOT follow.

The books that are pens need not overlap with the pens that are pencils.



Conclusion II – “All pencils are books”: Does NOT follow.

Neither premise links pencils to books in any universal way.

Neither conclusion follows.

Answer: (D) Neither follows

Sol. 12.

Solution

Answer: (C)

Blood Relations

- Sita is **Rama's wife**. $\Rightarrow$ Rama is Sita's husband.
- Lakshman is **Rama's brother**.

Relation chain:

Lakshman $\xrightarrow{\text{brother of}}$ Rama $\xrightarrow{\text{husband of}}$ Sita

The *brother of one's husband* is called a **brother-in-law**.

Therefore, Lakshman is Sita's **Brother-in-law**.

Answer: (C) Brother-in-law

Sol. 13.

Solution

Answer: (B)

Direction Sense (Pythagorean Theorem)

Mohan's two legs of travel are perpendicular, forming a right triangle:

- Horizontal leg (East) = 9 km
- Vertical leg (North) = 12 km
- Hypotenuse (straight-line distance) = ?

Applying the Pythagorean theorem:

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

Note: (9, 12, 15) is the Pythagorean triple $3 \times (3, 4, 5)$.

Answer: (B) 15 km



Sol. 14.

Solution**Answer: (A)****Dice – Opposite Faces Rule**On a **standard die**, every pair of opposite faces sums to **7**:

Top face	Bottom face (opposite)
1	6
2	5
3	$7 - 3 = 4$

If the top face shows 3, the bottom face = $7 - 3 = 4$.**Answer: (A) 4**

Sol. 15.

Solution**Answer: (D)****Pattern Matrix – Shape Count Doubles**The governing rule: the **number of shapes doubles** from the left column to the right column.

$\triangle$ (1 triangle)	$\triangle \triangle$ (2 triangles)
$\square$ (1 square)	?

Following the pattern: 1 shape $\rightarrow$ 2 shapes.Bottom row, left: 1 square $\Rightarrow$ Bottom row, right: **2 squares**.The missing figure is $\square \square$ (**two squares**).**Answer: (D) $\square \square$ (two squares)**

Answer Key – MAH B.P.Ed CET Mental Ability Sample Paper 6

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	D	3	A	4	C	5	B
6	D	7	A	8	C	9	B	10	B
11	D	12	C	13	B	14	A	15	D

Click any answer to jump to its detailed solution.

Answer Distribution:

Option	Count	Questions
A	3	Q3, Q7, Q14
B	5	Q1, Q5, Q9, Q10, Q13
C	3	Q4, Q8, Q12
D	4	Q2, Q6, Q11, Q15

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