

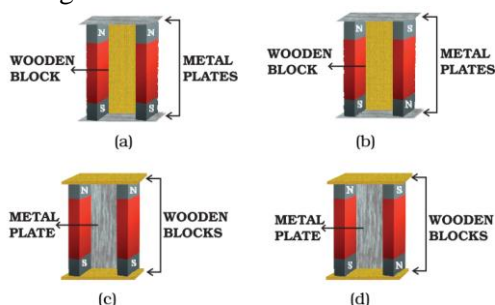
**MTQ Sample Question Paper**  
**Category 1**

1. Which of the following does not express a time interval?  
 (a) A day  
 (b) A second  
 (c) A school period  
 (d) Time of the first bell in the school

2. Paheli observed the shadow of a tree at 8:00 (A) m., 12:00 noon and 3:00 p.m. Which of the following statements is closest to her observation about the shape and size of the shadow?  
 (a) The shape of the shadow of the tree changes but the size remains the same.  
 (b) The size of the shadow of the tree changes but the shape remains the same.  
 (c) Both the size and shape of the shadow of the tree change.  
 (d) Neither the shape nor the size of the shadow changes.

3. Which of the following can never form a circular shadow?  
 (a) A ball  
 (b) A flat disc  
 (c) A shoe box  
 (d) An ice cream cone

4. The arrangement to store two magnets is shown by figures (a), (b), (c) and (d) in Fig. Which one of them is the correct arrangement?



5. The correct symbol to represent the speed of an object is  
 (a) 5 m/s  
 (b) 5 mp  
 (c) 5 m/s<sup>-1</sup>  
 (d) 5 s/m

6. Which of the following is a pure substance?  
 A) Air  
 B) Soil

- C) Water  
 D) Milk

7. The process of water changing into vapor is called:  
 A) Condensation  
 B) Evaporation  
 C) Boiling  
 D) Freezing

8. Which of these is a chemical change?  
 A) Boiling water  
 B) Melting ice  
 C) Burning of magnesium  
 D) Breaking chalk

9. Which gas is produced when a metal reacts with acid?  
 A) Oxygen  
 B) Hydrogen  
 C) Carbon dioxide  
 D) Nitrogen

10. Which metal is stored in kerosene oil?  
 A) Iron  
 B) Copper  
 C) Sodium  
 D) Zinc

11. "Cells arise only from pre-existing cells."  
 Who gave this statement?  
 (A) Schleiden  
 (B) Schwann  
 (C) Virchow  
 (D) Hooke

12. Identify the odd one out with reason.  
 (A) Nucleus  
 (B) Cell wall  
 (C) Chloroplast  
 (D) Ribosome

13. Match the following cell parts with their functions:

**Column I**

**Column II**

- |                  |                             |
|------------------|-----------------------------|
| (A) Mitochondria | i. Controls cell activities |
| (B) Nucleus      | ii. Photosynthesis          |
| (C) Chloroplast  | iii. Energy production      |

Select the correct match:

- (A) a-iii, b-i, c-ii  
 (B) a-ii, b-iii, c-i  
 (C) a-i, b-ii, c-iii  
 (D) a-iii, b-ii, c-i



27. The simplest fraction form of 20.0925 is :
- (a)  $\frac{803.7}{400}$  (b)  $\frac{8037}{200}$   
 (c)  $\frac{8037}{400}$  (d)  $\frac{8037}{4000}$
28.  $8 - [18 - \{16 - (5 - \overline{4 - 1})\}]$  is equal to :
- (a) 2 (b) 3  
 (c) 4 (d) 5
29. 17 bottles of water, each of 300 mL and 30 bottles of juice, each of 130 mL are poured into a jug. The total liquid in the jug in litres is :
- (a) 8 (b) 9  
 (c) 10 (d) 11
30. What should be subtracted from  $\frac{33}{40}$  to get  $\frac{11}{40}$  ?
- (a)  $\frac{11}{20}$  (b) 22  
 (c)  $\frac{11}{40}$  (d)  $\frac{3}{5}$
31.  $\left(\frac{5}{22} + \frac{7}{22} + \frac{3}{22} - \frac{9}{22} - \frac{1}{22}\right)$ , on simplification, gives :
- (a)  $\frac{15}{22}$  (b)  $\frac{17}{22}$   
 (c)  $\frac{19}{22}$  (d)  $\frac{13}{22}$
32. A bicycle wheel has a total of 24 spokes. The angle between a pair of adjacent spokes is :
- (a)  $10^\circ$  (b)  $15^\circ$   
 (c)  $24^\circ$  (d)  $30^\circ$
33. If  $a/b$  is a fraction, where  $a = b - 3$  and  $\frac{a+10}{b} - \frac{a}{b} = \frac{10}{7}$ , then  $\frac{a}{b}$  is :
- (a)  $\frac{8}{11}$  (b)  $\frac{2}{5}$   
 (c)  $\frac{4}{7}$  (d)  $\frac{5}{8}$
34. If each side of a square is decreased to one-third of itself, then the area of the square will be decreased to :
- (a) one-seventh (b) one-third  
 (c) one-eighth (d) one-ninth
35. 360 g is what percent of 3 kg?
- (A) 12% (B) 15%  
 (C) 18% (D) 21%

36. If  $15 - 15 \div 15 \times 6 = x$ , then the value of x is
- (A) 6 (B) 0  
 (C) 9 (D) 84
37. In how many years will ₹1500 amount to ₹1800 at 8% per annum simple interest?
- (a)  $1\frac{1}{2}$  yr (b) 2 yr  
 (c)  $2\frac{1}{2}$  yr (d) 3 yr
38. The LCM of 25, 45 and 75 is
- (a) 450 (b) 125  
 (c) 175 (d) 225
39. A piece of wire  $2\frac{3}{4}$  m long broke into two pieces. One piece is  $\frac{5}{8}$  m longer than the other. The length of the longer wire is
- (a)  $1\frac{11}{16}$  m (b)  $1\frac{1}{16}$  m  
 (c) 2 m (d)  $\frac{3}{4}$  m
40. If  $A = 6$ , then  $\frac{A}{A+4} + \frac{A+2}{12-2} - \frac{3}{10}$  is equal to:
- (a)  $\frac{9}{10}$  (b) 1  
 (c)  $\frac{11}{10}$  (d)  $\frac{13}{10}$
41. Select the combination of numbers so that letters arranged accordingly will form a meaningful word(D)
- R A C E T  
 1 2 3 4 5  
 (A) 1, 2, 3, 4, 5 (B) 3, 2, 1, 4, 5  
 (C) 5, 2, 3, 4, 1 (D) 5, 1, 2, 3, 4
42. The letters of the word NUMKIPP are in disorder. If they are arranged in proper order, the name of a vegetable is formed(D) What is the last letter of the word so formed?
- (A) K (B) M  
 (C) N (D) P
43. **DIRECTIONS:** Find which one word cannot be made from the letters of the given word(D)
- UNCONSCIOUS  
 (A) SON (B) COIN  
 (C) SUN (D) NOSE

44. If HELMET is written as IFMNFU. Then how will CHOCOLATE be written as?

- (A) DIPPMPBUF
- (B) EIPPMPBUF
- (C) DIPPMPBUF
- (D) DIPPMPBUF

45. How many 5s are there in the following sequence which are immediately followed by 3 but not immediately preceded by 7?

8 9 5 3 2 5 3 8 5 5 6 8 7 3 3 5 7 7 5 3 6 5  
3 3 5 7 3 8

- A) One
- B) Two
- C) Three
- D) Four

46. Ramakant walks northwards. After a while, he turns to his right and a little further to his left. Finally, after walking a distance of one kilometre, he turns to his left again. In which direction is he moving now ?

- A) North
- B) South
- C) East
- D) West

47. P, Q, R, S, T, U, V and W are sitting around a round table in the same order, for group discussion at equal distance. Their positions are clockwise. If V sits in the north, then what will be the position of S?

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

48. One morning after sunrise, Gopal was facing a pole. The shadow of the pole fell exactly to his right. Which direction was he facing?

- A) South
- B) East
- C) West
- D) Data inadequate

49. One morning after sunrise, Reeta and Kavita were talking to each other face to face at Tilak Square. If Kavita's shadow was exactly to the right to Reeta, which direction Kavita was facing?

- A) North
- B) South
- C) East
- D) Data inadequate

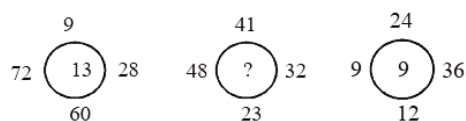
50. At what time between 9 and 10 will the hands of a watch be together?

- A) 45 minutes past 9
- B) 50 minutes past 9
- C)  $49\frac{1}{11}$  minutes past 9
- D)  $48\frac{2}{11}$

51. An accurate clock shows 8 O'clock in the morning. Through how many degrees will the hour hand rotate when the clock shows 2 O'clock in the afternoon?

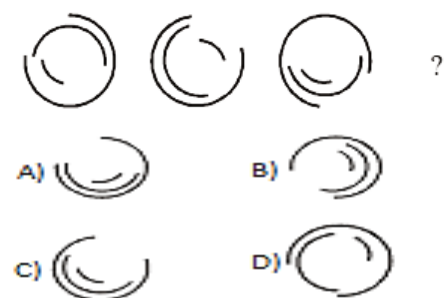
- A)  $144^\circ$
- B)  $150^\circ$
- C)  $168^\circ$
- D)  $180^\circ$

52.

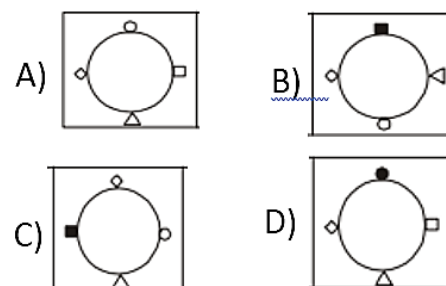
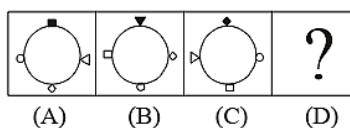


- A) 12
- B) 15
- C) 17
- D) 18

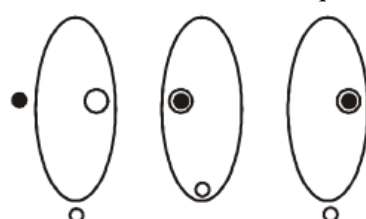
53. What comes next in the sequence?

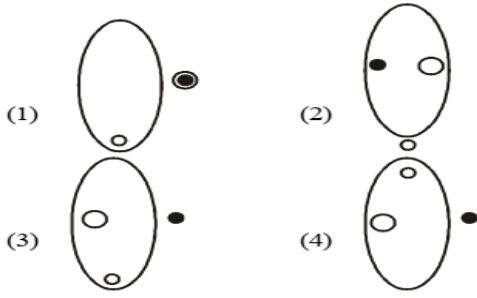


54.

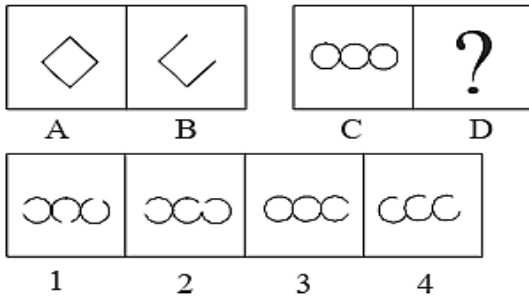


55. What comes next in the sequence?



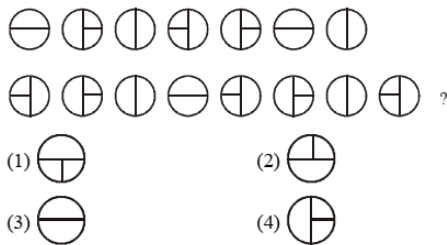


56. Figures A and B are related in a particular manner. Establish the same relationship between figures C and D by choosing a figure from amongst the alternatives which would replace the question mark.



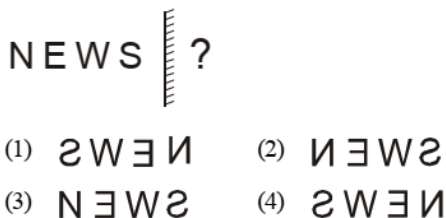
- A) 1
- B) 2
- C) 3
- D) 4

57. Which circle should replace the question mark?



- A) 1
- B) 2
- C) 3
- D) 4

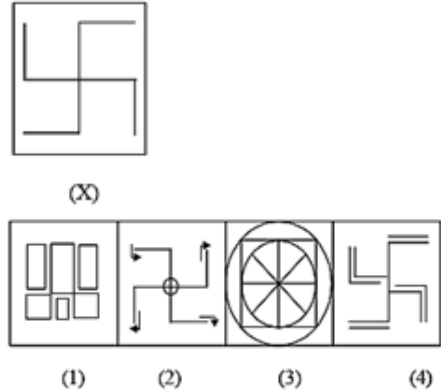
58.



59. Looking into a mirror, the clock shows 9 : 30 as the time. The actual time is

- (A) 2 : 30
- (B) 3 : 30

60.



**Passage 1: The Mystery of the Missing Water**

Every summer, the town of Noorabad faced a strange problem. The main lake, which supplied water to most houses, would lose nearly one-third of its water within just a few weeks. People believed it was because of the heat, but this year a group of students from Class 7 decided to investigate.

They began by measuring the water level every morning for ten days. They also recorded the temperature, rainfall, and how many hours the water pump was use(D) Soon they noticed something unusual: the greatest drop in water level happened on days when the water pump ran for longer hours, even when the temperature was low.

Curious, they interviewed the staff at the nearby farms and learned that many farmers secretly used the lake water at night to irrigate their fields, even though this was against the town rules. The students presented their findings to the town council, suggesting installation of a simple meter to track nighttime usage. The council appreciated the students' effort and immediately approved the ide(A)

Within a month of monitoring, the lake's water level stopped falling rapidly. The students' small investigation had helped save an entire town from a future water crisis.

Questions (MCQ)

61. Why did the students start investigating the lake?  
(A) They wanted to measure rainfall  
(B) They noticed the lake was losing water every summer  
(C) Their teacher gave them a project  
(D) The farmers asked them to
62. What unusual pattern did the students observe?  
(A) Water level dropped only during rainfall  
(B) Temperature caused the highest loss of water  
(C) Water level dropped most when the pump ran longer  
(D) Water level never changed
63. What did the students discover during interviews?  
(A) Farmers were planting new crops  
(B) Farmers were using lake water illegally at night  
(C) The pump was broken  
(D) The lake had a hidden leak
64. What solution did the students suggest?  
(A) Closing the lake  
(B) Building a new pump  
(C) Installing a meter to monitor night usage  
(D) Allowing farmers free access
65. What happened after the new system was installed?  
(A) The lake dried completely  
(B) The water level became stable  
(C) Farmers refused to cooperate  
(D) The pump stopped working

**Passage 2: The Clock Tower Rescue**

The old clock tower in the center of Shadipur had stopped working for almost six months. The people of the town used it to check the time while going to school, work, or the market. Without it, everyone complained about delays and confusion.

One day, Anaya, a curious Class 8 student, asked the town mechanic if she could watch him repair the tower. When they climbed up, they found that the gears were rusty and the main pendulum was stuck. But there was a bigger surprise waiting: a family of pigeons had built a nest inside the machinery, making it impossible for the clock to move.

Instead of removing the pigeons forcefully, Anaya suggested placing a wooden platform beside the clock mechanism where the birds could safely shift their nest. Together with the mechanic, she slowly transferred the pigeons and cleaned the gears.

After three hours of careful work, the clock tower began ticking again. The townspeople gathered to cheer, and the council praised Anaya for her thoughtful and humane solution.

Questions (MCQ)

66. Why was the clock tower causing problems in Shadipur?  
(A) It was too tall  
(B) It had stopped working for months  
(C) It made too much noise  
(D) It blocked traffic
67. What was found inside the clock mechanism?  
(A) A broken spring  
(B) A thief hiding  
(C) A pigeons' nest  
(D) A bag of tools
68. What made the gears stop working?  
(A) The pigeons' nest and rust  
(B) A lightning strike  
(C) Too much dust from the market  
(D) Someone turned it off
69. What solution did Anaya suggest?  
(A) Destroy the pigeons' nest immediately  
(B) Build a new tower  
(C) Shift the pigeons safely to a side platform  
(D) Close the tower permanently

70. How did the town react after the clock was fixed?  
(A) They ignored it  
(B) They blamed the mechanic  
(C) They celebrated and praised Anaya  
(D) They complained it was too slow
71. Who was the first muezzin (caller to prayer) in Islam?  
(A) Abu Bakr (RA)  
(B) Bilal ibn Rabah (RA)  
(C) Umar ibn Al-Khattab (RA)  
(D) Salman Al-Farsi (RA)
72. Which Mughal emperor built the Buland Darwaza at Fatehpur Sikri?  
(A) Akbar  
(B) Shah Jahan  
(C) Jahangir  
(D) Babur
73. What is the capital city of the newly admitted BRICS member, Saudi Arabia (2024 expansion)?  
(A) Medina  
(B) Riyadh  
(C) Jeddah  
(D) Dammam
74. In the Seerah, during which battle was the trench (Khandaq) dug around Madinah?  
(A) Battle of Badr  
(B) Battle of Uhud  
(C) Battle of Khandaq  
(D) Battle of Tabuk
75. Which architectural feature is most closely associated with Indo-Islamic architecture?  
(A) Doric columns  
(B) Flying buttresses  
(C) Pointed arches  
(D) Wooden pagodas
76. Which country recently hosted the 2024 UN Climate Ambition Summit?  
(A) Japan  
(B) Brazil  
(C) United States  
(D) UAE

77. What is the name of the treaty in which the Quraysh and Muslims agreed to a 10-year truce?  
(A) Treaty of Aqabah  
(B) Treaty of Taif  
(C) Treaty of Hudaibiyah  
(D) Treaty of Khaybar
78. Who wrote the famous work Ain-i-Akbari, describing Mughal administration and culture?  
(A) Ibn Battuta  
(B) Al-Biruni  
(C) Abul Fazl  
(D) Amir Khusrau
79. Which Indian athlete won a gold medal in javelin at the 2023 World Athletics Championships?  
(A) Annu Rani  
(B) Neeraj Chopra  
(C) Milka Singh  
(D) Hima Das
80. What is the Arabic term for the oneness of Allah, the core belief in Islam?  
(A) Salah  
(B) Taqwa  
(C) Tawheed  
(D) Sabr