Mindbenz Logical Reasoning Olympiad (MLRO)

Sample Paper

Grade- 8

Maximum Marks: 60   Time Allowed – 55 Minutes

Section: A Basic of Logic (10 Questions × 1 mark = 10 marks)

1. What is the next number in the series: 3, 4, 12, 45, 196, __?

A) 1005

B) 985

C) 1000

D) 995

2. Find the missing term in the series: DFI, GIL, JMO, ___.

A) MPR

B) MQS

C) NPR

D) MPS

3. Pointing to a man in a photograph, a woman says, "His brother's father is the only son of my grandfather." How is the woman related to the man in the photograph?

A) Mother

B) Aunt

C) Sister

D) Daughter

4. A person starts from point A, walks 10m South, takes a left turn and walks 15m. He then takes a right turn, walks 5m, and then takes a right turn and walks 15m. What is the shortest distance between his starting point A and his final position?

A) 15m

B) 20m

C) 25m

D) 10√2 m

5. Symphony is to Composer as Fresco is to _____.

A) Painter

B) Musician

C) Author

D) Architect

6. Find the odd one out from the given options.

A) 24 - 10

B) 48 - 18

C) 80 - 28

D) 99 - 35

7. A clock started at noon. By 20 minutes past 6, the hour hand has turned through:

A) 190°

B) 180°

C) 195°

D) 185°

8. Statements:

1. All plastics are synthetic.

2. Some synthetics are polymers.

Conclusions:

I. Some polymers are plastics.
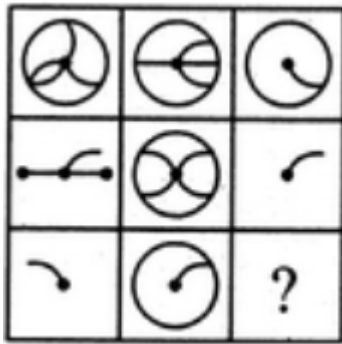
II. All plastics being polymers is a possibility.

A) Only conclusion I follows

B) Only conclusion II follows

C) Both I and II follow

D) Neither I nor II follows3

9. Choose the correct mirror image for the given figure.

[Image: A standard analog clock showing the time 4:40]

A) A clock showing 8:20

B) A clock showing 7:20

C) A clock showing 7:40

D) A clock showing 8:40

10. Identify the figure that completes the pattern in the given matrix.

A)

B)

C)

D)

11. Find the next term in the alternating series: 5, 2, 8, 9, 11, 28, 14, __.

A) 64

B) 55

C) 59

D) 65

12. Question: What is the value of a two-digit number?

Statements:

I. The sum of the digits is 7.

II. The number obtained by interchanging the digits is greater than the original number by 9.

A) I alone is sufficient but II alone is not sufficient.

B) II alone is sufficient but I alone is not sufficient.

C) Both statements together are sufficient, but neither statement alone is sufficient.

D) Each statement alone is sufficient.

13. If 'A $B' means 'A is the father of B', 'A # B' means 'A is the sister of B', and 'A * B' means 'A is the daughter of B'. How is P related to S in the expression P$ Q # R * S?

A) Husband

B) Son-in-law

C) Brother-in-law

D) Father-in-law

14. Six products - U, V, W, X, Y, and Z - are to be placed in six display windows (numbered 1 to 6 from left to right). Z is not in window 1 or 6. W must be placed immediately to the left of X. Y cannot be in window 6. U is placed in window 5. Which of the following is a possible arrangement?

A) V, Z, W, X, U, Y

B) Y, W, X, Z, U, V

C) V, Y, Z, W, U, X

D) Y, Z, W, X, U, V

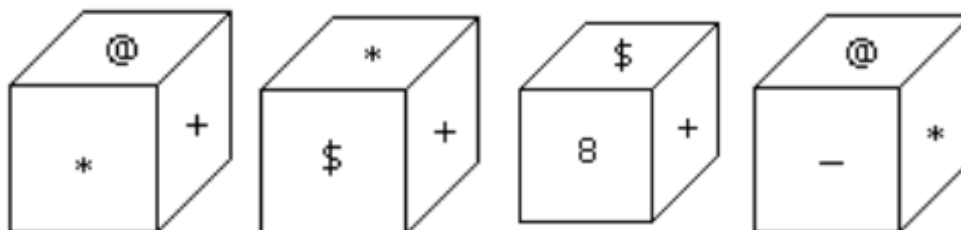15. If the 1st of January 2007 was a Monday, what was the day of the week on the 1st of January 2011?

A) Friday

B) Saturday

C) Sunday

D) Thursday

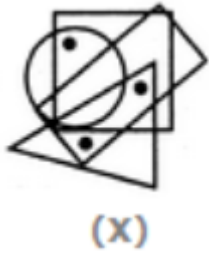16. Which symbol will be on the face opposite to the face with symbol * ?

A) @

B) $

C) -

AVIRAL BHARGAVA

D) 8

17. Select the figure which satisfies the same conditions of placement of the dots as in Figure-X.

(X)
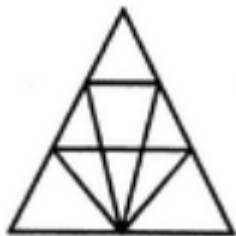

A)

B)

C)

D)

18. Find the number of triangles in the given figure.

A) 12

B) 18

C) 22

D) 26

19. Statements:

1. No apple is a plum.

2. All plums are oranges.

3. All oranges are mangoes.

Conclusions:

I. All plums are mangoes.

II. At least some mangoes are oranges.

III. No apple is an orange.

A) Only I and II follow

B) Only II and III follow

C) Only I follows

D) All I, II, and III follow

20. A square sheet of paper is folded along the diagonal. It is then folded again to form a smaller triangle. Then, a small circle is cut from the center and a semi-circle is cut from the edge of the longest side. How will the paper look when unfolded?

A) A square with a central diamond-shaped hole and four circles near the corners

B) A square with a central circular hole and two semi-circles on two opposite sides

C) A square with four circular holes and two diamond-shaped holes

D) A square with a central square hole and four semi-circles on the sides

Section C: Logical Mastery (20 Questions × 2 marks = 40 marks)

21. Find the next term in the series: 2, 12, 36, 80, 150, ___.

A) 252

B) 270

C) 216

D) 240

22. Find the missing term: F3X, H7U, K15R, O31O, ___.

A) T63L

B) S63L

C) S61M

D) T63M

23. Eight colleagues P, Q, R, S, T, U, V, and W are sitting around a circular table facing the center, each holding a different post viz. Manager, CS, Chairman, President, VP, GL, FA and MD. P sits third to the right of the MD. Only two people sit between the MD and W. The VP and the CS are immediate neighbors of W. T sits third to the right of the VP. V is the President and sits second to the left of T. The GL is second to the right of the Chairman. U is the Manager and R is the FA. Who is the Chairman?

A) Q

B) P

C) S

D) R

24. A person starts walking from his home. He walks 15m towards the East, takes a 135° turn towards his right and walks 15 m. Then he takes a 45° turn towards his left and walks 10m. In which direction is he from his home?

A) South

B) South-East

C) South-West

D) East

25. On which day of the week did Ankit join the company? (Mon-Sat are working days).

Statements:

I. The manager correctly remembers that Ankit joined after Tuesday but before Saturday.

II. The HR head correctly remembers that Ankit joined before Friday but after Monday.

A) I alone is sufficient.

B) II alone is sufficient.

C) Both statements together are sufficient.

D) Both statements together are not sufficient.

26. A watch which gains 5 seconds in 3 minutes was set right at 8 AM. What time will it show at 10 PM on the same day?

A) 10:23:20 PM

B) 10:20:00 PM

C) 10:22:30 PM

D) 10:25:00 PM

27. The calendar for the year 2005 will be the same for which of the following years?

A) 2011

B) 2012

C) 2013

D) 2016

28. Statements:

1. Only a few rivers are lakes.

2. All lakes are oceans.

3. No ocean is a sea.

Conclusions:

I. Some rivers are not lakes.

II. All rivers can never be seas.

III. Some lakes are not seas.

A) Only I and II follow

B) Only II and III follow

C) Only I and III follow

D) All I, II, and III follow
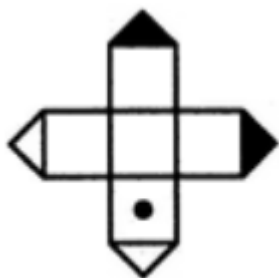
29. Find the odd one out:

A) (12, 144, 156)

B) (14, 196, 210)

C) (16, 256, 272)

D) (18, 324, 340)

30. Choose the box that is similar to the box formed from the given sheet of paper (X).

A) 1 and 4 only

B) 2 and 3 only

C) 1 and 2 only

D) 3 and 4 only

AVIRAL BHARGAVA
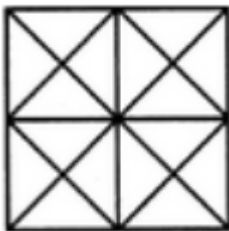
31. Four friends - Amit, Bimal, Charan, and David - have one car each among Maruti, Hyundai, Honda, and Tata. The cars are colored Red, Blue, Green, and White. David has a White Tata. Bimal has a Hyundai. Amit's car is not a Honda. The Green car is not owned by Charan. Which combination is correct?

A) Amit - Maruti - Green

B) Charan - Honda - Red

C) Bimal - Hyundai - Blue

D) Amit - Maruti - Red

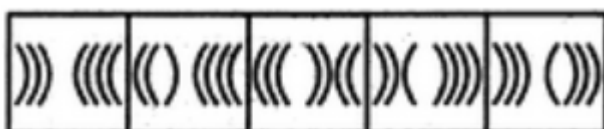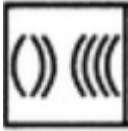32. Count the number of triangles and squares in the given figure.

A) 44 triangles, 10 squares

B) 14 triangles, 16 squares

C) 27 triangles, 6 squares

D) 36 triangles, 9 squares

33. A cube of side 4 cm is painted red on all its faces and then cut into smaller cubes of side 1 cm each. How many of the smaller cubes will have exactly two faces painted?
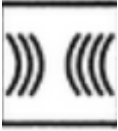
A) 8

B) 16

C) 24

D) 32

34. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.
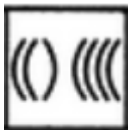
AVIRAL BHARGAVA

A) (1)

B) (2)

C) (3)

D) (4)

35. Ignorance : Knowledge :: Obfuscation :

A) Clarity

B) Confusion

C) Darkness

D) Error

36. In the addition SEND + MORE = MONEY, where each letter is a unique digit, what is the value of the code for M O N E Y ?

A) 10456

B) 10862

C) 10652

D) 10978

37. If A > B, C < D, E > A, F > G, B > C, H < G, and D > E, which one of the following is definitely true?

A) F > H

B) D > A

C) B > G

D) A > H

38. A team of five members is to be selected from amongst A, B, C, D, E, F, and G subject to the following conditions:

- A and C have to be together.

- B cannot be selected with D.

- E and F have to be together.

- G cannot be selected with A. If B is selected, which of the following must be the complete team?
  A) B, A, C, E, F
  B) B, C, E, F, G
  C) B, A, E, F, G
  D) B, C, F, G, D

39. In a certain tribe, there are two types of people: Truth-tellers who always tell the truth and Liars who always lie. You meet three people: A, B, and C.

- A says, "B is a liar."

- B says, "C is a liar."

- C says, "Both A and B are liars." Who is the Truth-teller?

  A) A
  B) B
  C) C
  D) Cannot be determined

40. An input-output machine rearranges words based on a rule. Below is an example:

Input: go for to the market now

Step I: the go for to market now

Step II: the to go for market now

Step III: the to now go for market

Step IV: the to now market go for
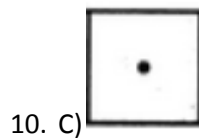
Step V: the to now market for go

If the input is ask not what your country can do for you, what will be Step III?

A) your what not ask country can do for you

B) your what you not ask country can do for

C) your what you not can ask country do for

D) your what you ask not country can do for

ANSWER KEY

Section A:

1. A) 1005

2. A) MPR

3. C) Sister

4. A) 15m

5. A) Painter

6. D) 99 - 35

7. A) 190°

8. C) Both I and II follows

9. B) A clock showing 7:20

10. C)

Section B:

11. B) 55

12. C) Both statements together are sufficient, but neither statement alone is sufficient.

13. D) Father-in-law

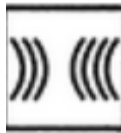14. B) Y, W, X, Z, U, V

15. B) Saturday

16. C) -

17. C)

18. A) 12

19. B) Only II and III follow

20. B)A square with a central circular hole and two semi-circles on two opposite sides

Section C:

21. A) 252

22. A) T63L

23. A) Q

24. D) East

25. C) Both statements together are sufficient.

26. A) 10:23:20 PM

27. A) 2011

28. D) All I, II, and III follow

29. D) (18, 324, 340)

30. B) 2 and 3 only

31. B) Charan - Honda - Red

32. A) 44 triangles, 10 squares

33. C) 24

34. B) (2)

35. A) Clarity

36. C) 10652

37. B) D > A

38. A) B, A, C, E, F

39. A) A

40. B) your what you not ask country can do for