BLOOM

| BRO | Bloom Reasoning Olympiad | GRADE **6** |

Bloom Reasoning Olympiad
Sample Paper 1

Maximum Time : 60 Minutes   **Maximum Marks : 60**

INSTRUCTIONS

1. There are 50 Multiple Choice Questions in this paper divided into two sections :

   Section A   40 MCQs; 1 Mark each
   Section B   10 MCQs; 2 Marks each

2. Each question has Four Options out of which **ONLY ONE** is correct.

3. All questions are compulsory.

4. There is no negative marking.

5. No electronic device capable of storing and displaying visual information such as calculator and mobile is allowed during the course of the exam.

School Name	
Student's Name	

Section A (1 Mark Questions)

1. P is the father of Q and the grandfather of R, who is the brother of S. S's mother, T is married to V. T is the sister of Q. How is V related to P?

(a) Nephew   (b) Brother-in-law

(c) Son   (d) Son-in-law

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

(a) Book : Author   (b) Art : Artist

(c) Invention : Scientist   (d) Patients : Doctors

3. Sohan drove 15 km to the West from his house, then turned left and drove 20 km. He then turned East and drove 25 km and finally turning left covered 20 km. How far he is from his house?

(a) 40 km   (b) 80 km   (c) 5 km   (d) 10 km

4. In a certain code, GOAL is written as JRDO. How is PLAN written in that code?

(a) SPDQ   (b) SODQ   (c) SOCP   (d) SODP

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

(a) 5 : 15   (b) 24 : 70   (c) 33 : 99   (d) 121 : 363

6. Choose the one which completes the second pair in the same way as the first.

BCDE : PQRS : : WXYZ : ?

(a) EFGH   (b) KLMN   (c) QJSP   (d) TSUV

7. From the given options, find the pair which is similar to the given pair 8 : 4.

(a) 27 : 9   (b) 216 : 32   (c) 72 : 24   (d) 45 : 5

8. Which number will replace the question mark (?) in the following series?

2, 5, 11, 23, 44, ?

(a) 77   (b) 51   (c) 63   (d) 66

9. Select the correct mirror image of the given figure when the mirror is placed to the right of the figure.
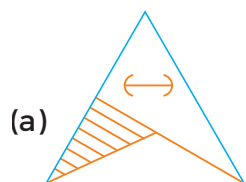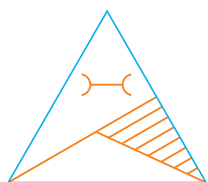
10. A paper is folded and cut as shown below. How will it appear when unfolded?

(a) (b) (c) (d)
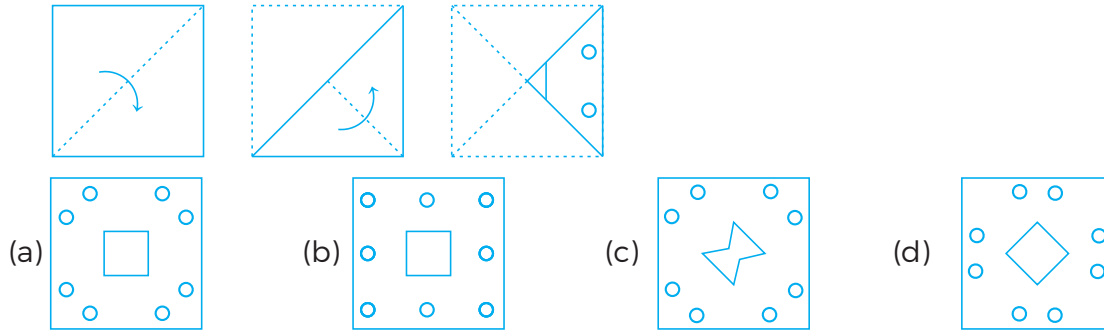
11. A man is facing West. He turns 45° in the clockwise direction and then another 180° in the same direction and then 270° in the anti-clockwise direction. Which direction is he facing now?

(a) South (b) North-West (c) West (d) South-West

12. Select the missing number from the given responses :

18	90	5
13	143	11
7	?	5

(a) 12 (b) 2 (c) 53 (d) 35

13. In a certain code, RAIN is written as 3$%4 and MORE is written as 8#3@. How is REMAIN written in that code?

(a) #@7$%6 (b) #@&$%6 (c) 7@#$%6 (d) 3@8$%4

14. If 'table' is 'book', 'book' is 'pen', 'pen' is 'eraser', 'eraser' is 'sharpener', 'sharpener' is 'pencil' and 'pencil' is 'school', then what is used by student to sharp pencil?

(a) sharpener (b) pencil (c) pen (d) eraser

**15.** Select the missing number from the given responses :

5	
9	
3	15

12	
16	
2	?

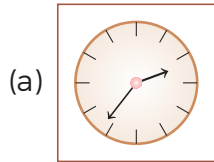| 12	
7	
4	21

(a) 105 (b) 190 (c) 96 (d) 120

16. The positions of how many digits in the number 2451479638 will remain same when the first half and the second half of the digits are arranged in ascending order separately?
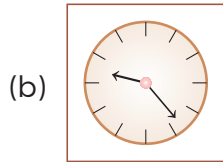
(a) Only one (b) Two (c) Three (d) None

03

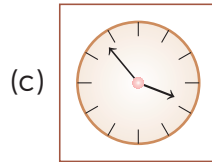**17.** Choose the correct mirror image of the given figure (X) from amongst the four alternatives.
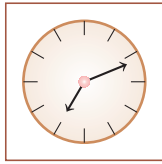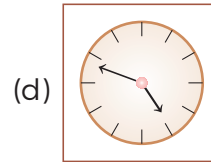

(X)

(a)   (b)   (c)   (d)

18. Choose the alternative which closely resembles the mirror image of the given combination.

A N S 4 3 Q 1 2

(a) ＡＮ４ ２ƐＱ１ 2   (b) Ƨ ⌐ＱƐ４ ƧＮＡ

(c) ２ＮＡƐ４ＱƧ ⌐   (d) ⌐ Ƨ Ｑ４ Ɛ ＡＮ S

19. Which one of the four interchanges in signs and numbers would make the given equation correct?

3 + 5 − 2 = 4

(a) + and −, 2 and 3   (b) + and −, 2 and 5

(c) + and −, 3 and 5   (d) None of these

20. A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

If the second half of the English alphabet is reversed, then which letter will be 4th to the right of 20th letter from the right?
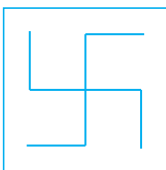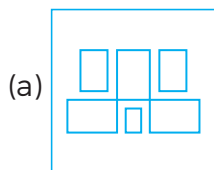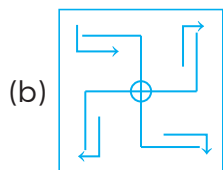
(a) U   (b) K   (c) E   (d) F

21. Find out the alternative figure which contains figure (X) as its part.

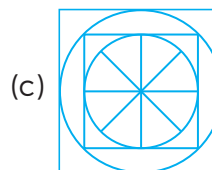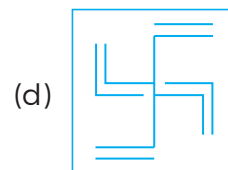(X)

(a)   (b)   (c)   (d)

22. If '<' means 'minus', '>' means 'plus', '=' means 'multiplied by' and '$' means 'divided by', then what would be the value of 31 > 81 $ 9 < 7?
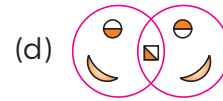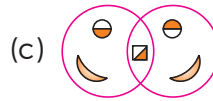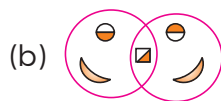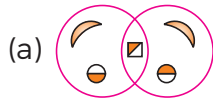
(a) 32   (b) 33   (c) 36   (d) None of these

23. How many meaningful English words can be formed with the letters ESRO using each letter only once in each word?

(a) Three   (b) Two   (c) One   (d) None of these

24. Choose the correct water image of the given figure (X) from amongst the four alternatives.

(X)

(a)   (b)   (c)   (d)
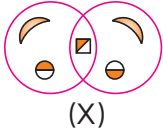
25. Identify the figure that completes the pattern.

?

(a)   (b)   (c)   (d)
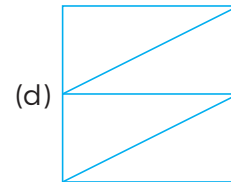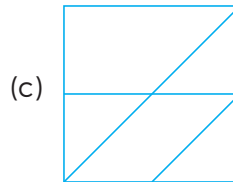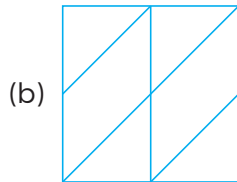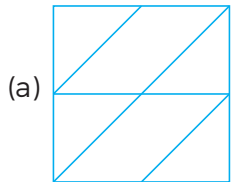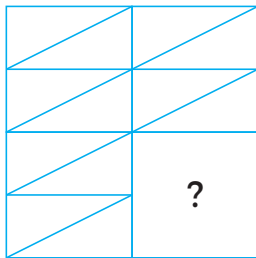
26. If $\times$ stands for $-$, $\div$ stands for $+$, $+$ stands for $\div$ and $-$ stands for $\times$, which one of the following equations is correct?

(a) $15 - 5 \div 5 \times 20 + 10 = 6$ (b) $8 \div 10 - 3 + 5 \times 6 = 8$

(c) $6 \times 2 + 3 \div 12 - 3 = 15$ (d) $3 \div 7 - 5 \times 10 + 3 = 10$

27. Choose the correct water image of the given figure (X) from amongst the four alternatives.

(X)

(a)   (b)   (c)   (d)
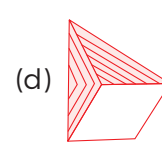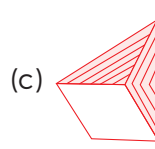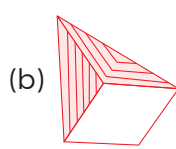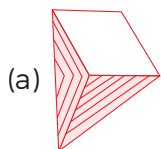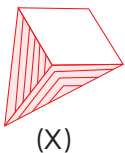
28. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends. R is sitting to the left of A. Who is to the immediate right of P ?

(a) A   (b) X   (c) S   (d) Z

29. Select a figure from amongst the answer figures which will continue the same series as established by the five problem figures.

Problem Figures

(A)   (B)   (C)   (D)   (E)
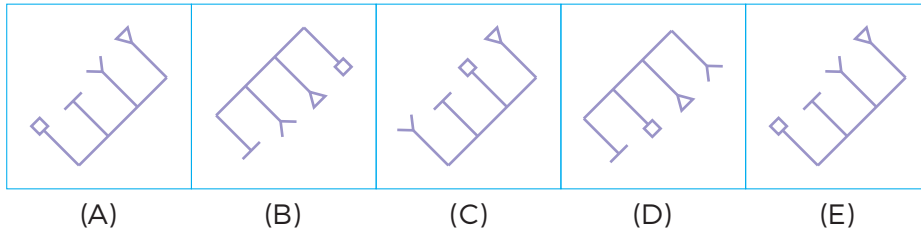
Answer Figures
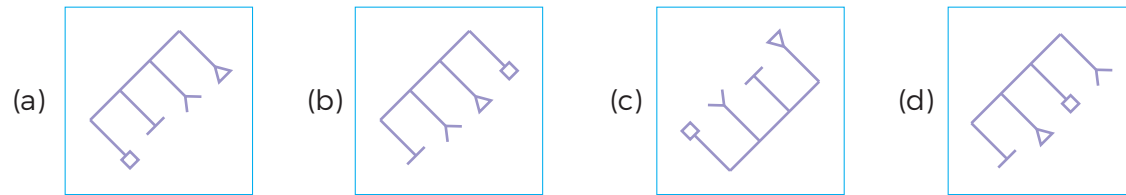
30. Arrange the words given below in a meaningful sequence.

1. Key   2. Door   3. Lock   4. Room

5. Switch on

(a) 5, 1, 2, 4, 3   (b) 4, 2, 1, 5, 3   (c) 1, 3, 2, 4, 5   (d) 1, 2, 3, 5, 4

31. A pulses factory produces 1505 kg pulses in a week. How many pulses will it produce in 28 days?

(a) 6200 kg   (b) 6040 kg   (c) 6062 kg   (d) 6020 kg

32. Choose a figure which would most closely resembles the unfolded form of Figure (Z).

X   Y   Z
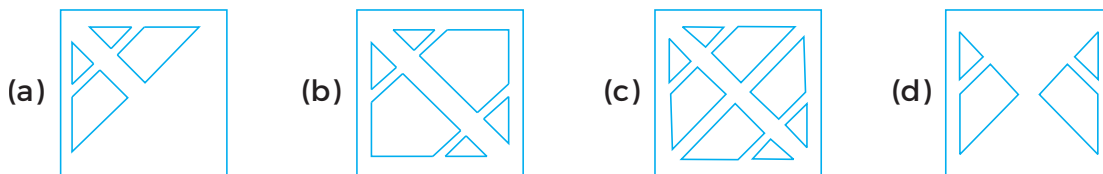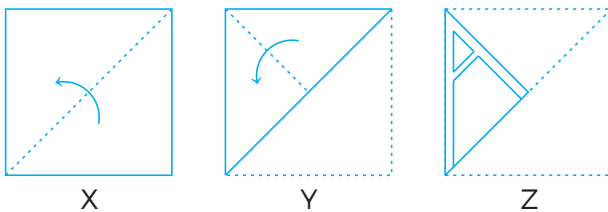
33. Deepak said to Nitin, "That boy playing with the football is the younger of the two brothers of the daughter of my father's wife." How is the boy playing football related to Deepak?

(a) Son   (b) Brother   (c) Cousin   (d) Brother-in-law

34. How many such letters are there in the word 'MARTINA' which remain same in its position, if they are arranged in alphabetical order?

(a) One   (b) Two   (c) Three   (d) Four

35. How many meaningful English words can be formed by the letters EOPR, using each letter only once?

(a) None   (b) One   (c) Two   (d) Three

36. A, B, C, D and E each has different heights. D is only shorter than B. E is shorter than A and C. Who is the shortest of them?

(a) E   (b) A   (c) C   (d) B

37. If each of the digits in the number '92581473' are arranged in ascending order, what will be the fourth from the right end?

(a) 1   (b) 2   (c) 5   (d) 9

38. 'Grass' is related to 'pasture', in the same way 'Word' is related to

(a) Sentence   (b) Spoken   (c) Write   (d) Book

39. Ankit read a novel from 6 PM to 7 PM and read another novel from 8 PM to 9 PM. How many hours did he read the novel altogether?

(a) 3 h   (b) 5 h   (c) 4 h   (d) 2 h

40. Find the one which does not belong to the group?

(a) CEH   (b) KMP   (c) XZC   (d) NPT

Section B (2 Marks Questions)

Directions (Q. Nos. 41 and 42) Study the following information carefully and answer the questions given below.

P, Q, R, S, T, U, V and W are sitting round the circle and are facing the centre.

1. P is second to the right of T who is the neighbour of R and V.

2. S is not the neighbour of P.

3. V is the neighbour of U.

4. Q is not between S and W. W is not between U and S.

41. Which two of the following are not neighbours?

(a) TV   (b) WU   (c) QP   (d) SU

42. Which one is immediate right to the V?

(a) Q   (b) U   (c) T   (d) P

Directions (Q. Nos. 43 and 44) Study the following information carefully and answer the questions given below.

Kishore faces towards North. Turning to his right, he walks 25 m. He then turns to his left and walks 30 m. Next, he moves 25 m to his right. He then turns to his right again and walks 55 m. Finally, he turns to the right and moves 40 m.

43. In which direction Kishore now from his starting point?
(a) South-West   (b) South   (c) North-West   (d) South-East

44. Total distance covered by the Kishore is
(a) 180 m   (b) 175 m   (c) 151 m   (d) 170 m

Directions (Q. Nos. 45 and 46) If each of the letters in the English alphabet is assigned odd numerical value beginning A =1, B = 3 and so on, then answer the following questions.

45. What will be the total value of the letters of the word 'CADE'?
(a) 20   (b) 18   (c) 22   (d) 25

46. What will be the total value of the word 'MAIL'?
(a) 75   (b) 66   (c) 68   (d) 70

Directions (Q. Nos. 47 and 48) Study the following digit-letter-symbol sequence carefully and answer the questions given below:

$$6\ P + S\ r\ 9\ B \infty A\ 3\ ©\ 7\ c > Z * 6\ d\ \&\ Q\ @\ 1$$

47. If the above sequence is written in the reverse order, then which element will be 5th to the right of 16th element from the right end?
(a) ∞   (b) ©   (c) %   (d) A

48. How many such numbers are there in the above sequence, each of which is immediately preceded by a consonant and immediately followed by a symbol?
(a) One   (b) Two   (c) Three   (d) Four

Directions (Q. Nos. 49 and 50) Study the following information carefully and answer the given questions.
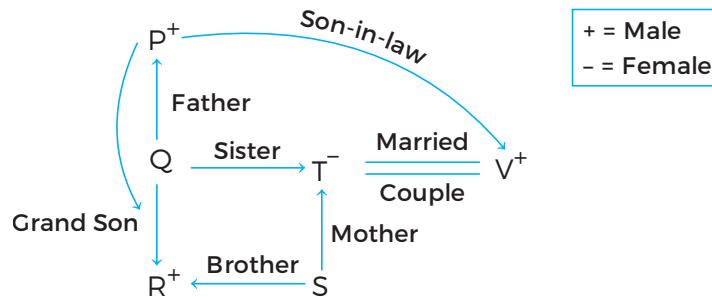
In a certain coded language, 'food is good' is written as 'ho na ta', 'eat food regularly' is written as 'sa ta la' and 'keep good health' is written as 'da na ja'.

49. How 'eat' is written in that code?
(a) sa or la   (b) sa   (c) la   (d) ja

50. How 'food' is written in that code?
(a) ja   (b) ho   (c) na/da   (d) ta

Solutions

1. (d) The family diagram is,

'V' is the son-in-law of P. Hence, option (d) is correct.

2. (d) Except Patients : Doctors ; in all the other options (The first word is a creation and the second word is its creator).

Hence, the option (d) is correct.

3. (d)
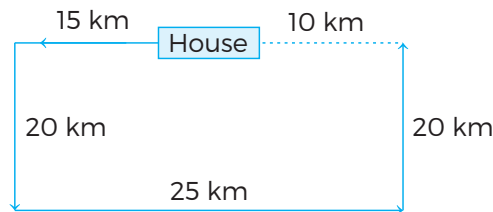
It's clear from the diagram that Sohan's distance from his house $= 10$ km. Hence, option (d) is correct.

4. (b) Each letter in the word moves three steps forward to obtain the corresponding letter of the code.

As,

$$\begin{array}{cccc} G & O & A & L \\ \downarrow{\scriptstyle +3} & \downarrow{\scriptstyle +3} & \downarrow{\scriptstyle +3} & \downarrow{\scriptstyle +3} \\ J & R & D & O \end{array}$$

Similarly,

$$\begin{array}{cccc} P & L & A & N \\ \downarrow{\scriptstyle +3} & \downarrow{\scriptstyle +3} & \downarrow{\scriptstyle +3} & \downarrow{\scriptstyle +3} \\ S & O & D & Q \end{array}$$
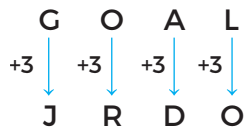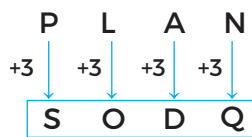
Hence, option (b) is correct.

5. (b) The pattern followed is 3 multiplied by the first number gives the second number

$5 \times 3 = 15$ which gives 5 : 15

$24 \times 3 = \boxed{72}$ and the given option is $\boxed{24 : 70}$

$33 \times 3 = 99$ which gives 33 : 99

$121 \times 3 = 363$ which gives 121 : 363

Hence, the option (b) is correct.

6. (b) Each letter of the 1st group has moved 14 steps forward to obtain the corresponding letter of the 2nd group. A similar relationship will exist between 3rd and the 4th group.

$$\begin{array}{cccc} B & C & D & E \\ {\scriptstyle +14}\downarrow & {\scriptstyle +14}\downarrow & {\scriptstyle +14}\downarrow & {\scriptstyle +14}\downarrow \\ P & Q & R & S \end{array}$$

Similarly,

$$\begin{array}{cccc} W & X & Y & Z \\ {\scriptstyle +14}\downarrow & {\scriptstyle +14}\downarrow & {\scriptstyle +14}\downarrow & {\scriptstyle +14}\downarrow \\ K & L & M & N \end{array}$$
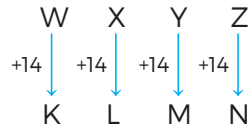
Hence, option (b) is correct.

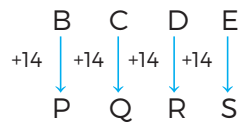**7.** (a) The pattern followed is "Cube of a number : square of the same number"

So, $(2 \times 2 \times 2) : (2 \times 2) = 8 : 4$

Similarly, $(3 \times 3 \times 3) : (3 \times 3) = 27 : 9$

Hence, the option (a) is correct.

8. (a) The pattern is follows as,
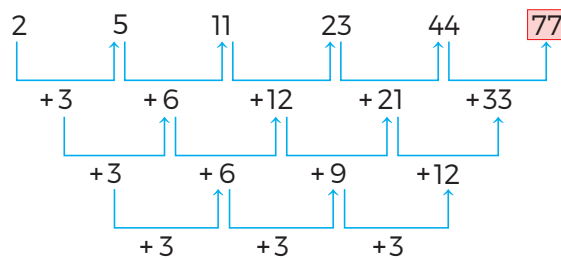
Hence, the option (a) is correct.

9. (c) The correct mirror image will be,
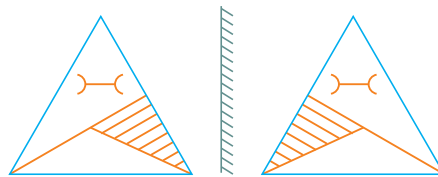
Hence, the option (c) is correct.

10. (a) It will appear when unfolded like as,
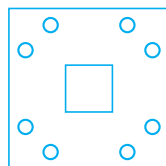
Hence, option (a) is correct.

11. (d)

Clearly, the man initially faces in the direction OA. On the moving 45 degree clockwise, he faces in the direction OB. On further moving 180 degree clockwise, he faces in the direction OC. Finally, on moving 270 degree anti-clockwise, he faces in the direction OD, which is South-West.

Hence, option (d) is correct.

12. (d) Pattern is follows as,

As, $18 \times 5 = 90$

$13 \times 11 = 143$

Similarly, $7 \times 5 = \boxed{35}$

Hence, option (d) is correct.

13. (d) The code given for the each letter is as
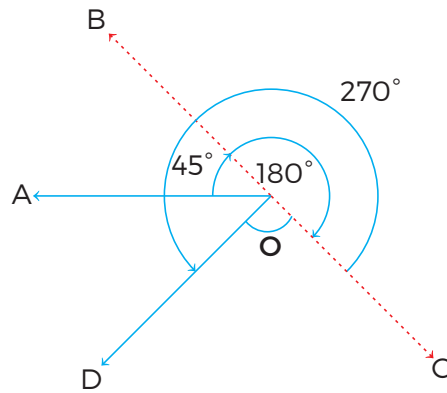
Letter	R	A	I	N	M	O	E
Codes	3	$	%	4	8	#	@

From the above table,

REMAIN will be coded as '3 @ 8 $ % 4'

Hence, option (d) is correct.

14. (b) Student use sharpener to sharp pencil. But sharpener is called pencil. So, pencil used by student to sharp pencil.

Hence, option (b) is correct.

15. (c) The pattern is follows as,

As, $(9 \times 5) / 3 = 15$

$(12 \times 7) / 4 = 21$

Similarly, $(12 \times 16) / 2 = \boxed{96}$

Hence, option (c) is correct.

16. (d) The given number 2 4 5 1 4 7 9 6 3 8

After arranging the first half and the second half of the digits of given number in ascending order, we get new number as
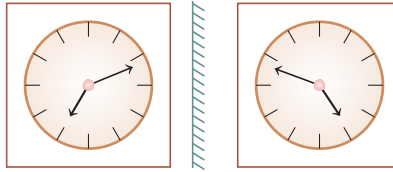
1 2 4 4 5 3 6 7 8 9

Now,

2	4	5	1	4	7	9	6	3	8
1	2	4	4	5	3	6	7	8	9

Comparing both the numbers, we can say that there is no number whose position remains unchanged.

Hence, the correct answer is option (d).

17. (d) The mirror image of figure (X),

Hence, option (d) is correct.

18. (b) The mirror image of A N S 4 3 Q 1 2 is

$$A N S\,43\,Q1\,2 \quad\big|\quad \text{S ɿ Ọ ƐⱯ ƧИА}$$

Hence, option (b) is correct.

19. (c) By making the interchanges given in (a)
$2 - 5 + 3 = 4$ or $0 = 4$, which is false.
By making the interchanges given in (b)
$3 - 2 + 5 = 4$ or $6 = 4$, which is false.
By making the interchanges given in (c)
$5 - 3 + 2 = 4$ or $4 = 4$, which is true.
Hence, option (c) is correct.

20. (b) After reversing the second half of alphabet series, we get
A B C D E F G H I J K L M Z Y X W V U T S R Q P O N
So, 4th to the right of 20th letter from the right means $(20 - 4 = 16\text{th})$ from the right.
16th letter from the right $= (26 - 16 + 1 =)$ 11th from the left, i.e. K
Hence, option (b) is correct.

21. (c) In the option (c) we get the figure (X)
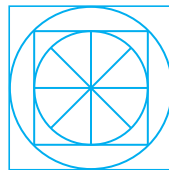
Hence, option (c) is correct.

22. (b) Using the correct symbols we have
Given expression $= 31 + 81 \div 9 - 7 = 31 + 9 - 7 = 33$
Hence, option (b) is correct.

23. (b) There are two meaningful words can be formed.
Meaningful words are ROSE and SORE.
Hence, option (b) is correct.

24. (d) The correct water image of given figure (X) is

Option (d) is correct water image.

25. (d) By option (d) we can completes the figure pattern.

Hence, option (d) is correct.

26. (b) Using the proper signs, we get
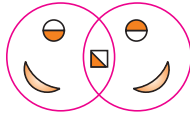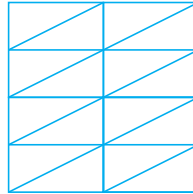Expression in (a) $= 15 \times 5 + 5 - 20 \div 10 = 15 \times 5 + 5 - 2 = 75 + 5 - 2 = 78$
Expression in (b) $= 8 + 10 \times 3 \div 5 - 6 = 8 + 10 \times 3 / 5 - 6 = 8 + 6 - 6 = 8$
Expression in (c) $= 6 - 2 \div 3 + 12 \times 3 = 6 - 2 / 3 + 36 = 42 - 2 / 3 = 124 / 3$
Expression in (d) $= 3 + 7 \times 5 - 10 \div 3 = 3 + 7 \times 5 - 10 / 3 = 3 + 35 - 10 / 3 = 104 / 3$
Hence, option (b) is correct.

27. (b) The correct water image of given figure (X) is
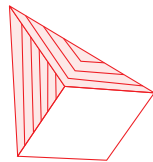
Option (b) is correct water image.

28. (b) The sitting arrangement is as follows.

P   X   S   Z   R   A

Therefore, immediate right of P is X. Hence, option (b) is correct.

29. (b) Similar figure reappears in every second step. Each time the first figure reappears, the

elements interchange positions in the order : . And, each time the second figure

reappears, the elements interchange positions in the order :
Hence, option (b) is correct.

30. (c) The correct order is :

Key Lock Door Room Switch on

  1   3   2   4   5

Hence, option (c) is correct.

31. (d) According to the question,
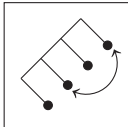
∵ Factory produce pulses in a week $= 1505$ kg

We know that, 1 week $= 7$ days

So, the factory produces pulses in a day $= \dfrac{1505}{7} = 215$ kg

∴ Pulses produces by the factory in 28 days $= 215 \times 28 = 6020$ kg

Hence, option (d) is correct.

32. (b) Option (b) is the most closely resembles the unfolded form of figure (Z).

Hence, option (b) is correct.

33. (b) Father's wife $\rightarrow$ mother. Hence, the daughter of the mother means sister and sister's younger brother means brother. Therefore, the boy is the brother of Deepak.

Hence, option (b) is correct.

34. (a)   Given word $\rightarrow$ M A R T I N A

After Alphabetical order $\rightarrow$ A A I M N R T

Only one letter 'A' will remain at the same position.

Hence, option (a) is correct.

35. (c) There are two meaningful words formed i.e., PORE, ROPE.

Hence, option (c) is correct.

36. (a) According to the question,

D is only shorter than B, means that B is tallest and B is second tallest

$$B > D$$
$$A/C > E$$

∴ $B > D > A/C > E$

Clearly, 'E' is the shortest among them.

Hence, option (a) is correct.

37. (c) Let us see Original number 9 2 5 8 1 4 7 3

Ascending order 1 2 3 4 5 7 8 9

Hence, '5' is fourth from the right end. Hence, option (c) is correct.

38. (a) 'Pasture' is collection of 'Grass' and Sentence is collection of 'words'.

Hence, option (a) is correct.

39. (d) He read the novel 6:00 pm to 7:00 pm → 1 h.

Again, 8:00 PM to 9:00 PM → 1 h.

Total hours are $= 1\,h + 1h = 2\,h$

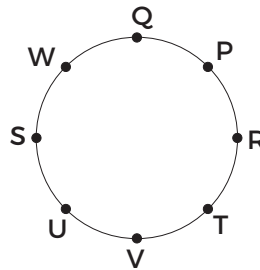Hence, option (d) is correct.

40. (d) From all the alternatives,

$$C \xrightarrow{+2} E \xrightarrow{+3} H$$

$$K \xrightarrow{+2} M \xrightarrow{+3} P$$

$$X \xrightarrow{+2} Z \xrightarrow{+3} C$$

$$N \xrightarrow{+2} P \xrightarrow{+4} T$$

In all the other pair of words, there is a gap of one letter between first and second letters and gap of two letters between second and third letter.

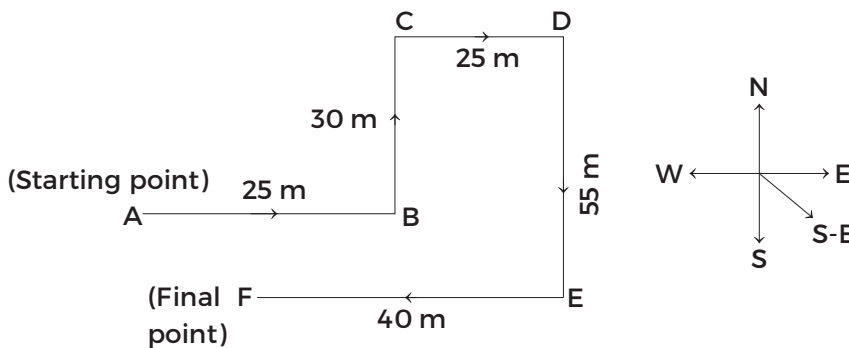Hence, option (d) is correct.

Sol. (Q.Nos. 41 and 42)

Sitting arrangement is

41. (b) 'WU' are not neighbours in this arrangement. Hence, option (b) is correct.

42. (c) 'T' is immediate right to the 'V'. Hence, option (c) is correct.

Sol. (Q.Nos. 43 and 44) According to question,

43. (d) Kishore turns right from North direction. So, he walks 25 m towards East up to B, turns left and moves 30 m towards North up to C, turns right and goes South and walks 55 m up to E. Next, he again turns to right and walks 40 m up to F, which is his final position. F is to the South-East of A. So, he is to the South-East from his starting point.

Hence, option (d) is correct.

44. (b) Total distance covered by the Kishore i.e., $= 25\,m + 30\,m + 25\,m + 55\,m + 40\,m = 175\,m$
Hence, option (b) is correct.

Sol. (Q.Nos. 45 and 46) Clearly, we have

Letter	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Value	1	3	5	7	9	11	13	15	17	19	21	23	25	27

45. (c) The value of the letters of the word 'CADE' will be
$$5 + 1 + 7 + 9 = 22$$
Hence, option (c) is correct.

46. (b) The total value of the letters of the word 'MAIL' will be $= 25 + 1 + 17 + 23 = 66$
Hence, option (b) is correct.

47. (b) Reversed sequence 1 @ Q & d 6 * Z > c 7 © 3 A ∞ B 9 r S + P 6.
Hence, the 16th element from the right end is * and 5th to the right of * is ©.

48. (a) Check for the sequence letter-number-symbol. There is only 1 such case in the above sequence i.e. A 3 ©. Hence, option (a) is correct.

Sol. (Q.Nos. 49 and 50) According to the question,

food is good → ho na ta ...(i)

eat food regularly → sa ta la ...(ii)

keep good health → da na ja ...(iii)

From Eqs. (i) and (iii), good → na
From Eqs. (i) and (ii), food → ta
From Eq. (i), is → ho
From the above equations, we get

Words	Codes
Food	ta
is	ho
good	na
eat	sa/la
regularly	la/sa
keep	da/ja
Health	ja/da

49. (a) The code for 'eat' is 'sa or la'. Hence, option (a) is correct.
50. (d) The code for 'food' is 'ta'. Hence, option (d) is correct.