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. Choose the group of letters which is different from others.

(a) B D   (b) I K   (c) P N   (d) S U

2. Find the missing letter in the following series.

H, I, K, N, ?

(a) O   (b) Q   (c) R   (d) S

3. Find a pair similar to 'Arrow : Bow' from the following.

(a) Football : Hand   (b) Salad : Knife   (c) Bullet : Rifle   (d) Smoke : Water

4. If every alternate letter starting from B is deleted from the given alphabet, then which of the following will be the tenth letter from the right end?

BADCFEEGPILKPMTOMQWSPUQWZY

(a) G   (b) D   (c) Q   (d) H

5. In a certain code language 'he is good' is written as 'pa ka na' and 'she is brave' is written as 'ra ka da' find the code for 'is'.

(a) ka   (b) na   (c) da   (d) ra

6. Out of the four given alternative, choose that alternative as your answer which is similar to the given word.

Ohm : Watt : Ampere

(a) Electricity   (b) Volt   (c) Hour   (d) Light

7. Find the figure that will complete the following series.

Problem Figures
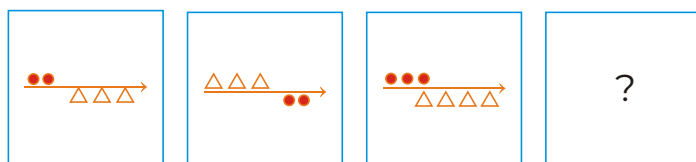
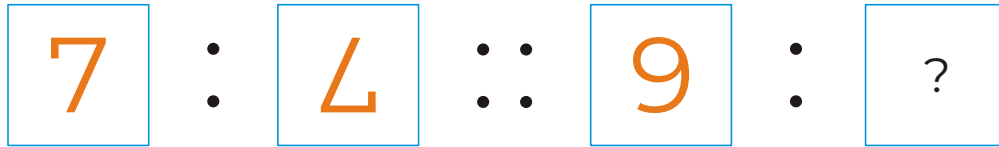**Answer Figures**
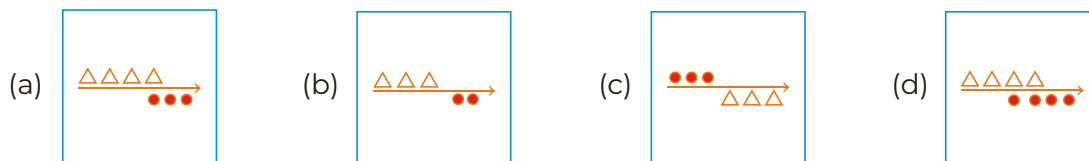
8. In a certain code language 'MIGHT' is written as 'GHMTI', then how will 'EARTH' be written in that code?

(a) RTEHA   (b) RTEAH   (c) RTAEH   (d) RETHA

9. Find the odd one out.

(a) 17   (b) 27   (c) 29   (d) 37

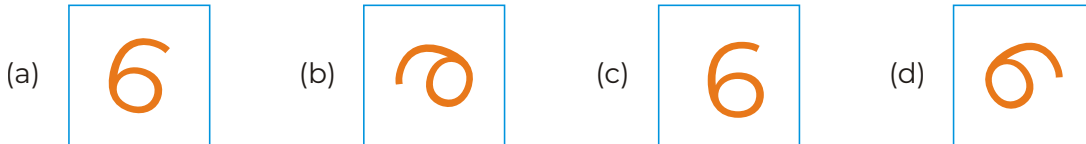**10.** Which letter is exactly midway between G and Q in English alphabet?

(a) K   (b) L   (c) N   (d) J

11. Find the figure from the set of answer figures that will replace the question mark '?'.

Problem Figures

Answer Figures

12. Find the missing term in the following series.

49, 64, ?, 100, 121

(a) 74   (b) 80   (c) 75   (d) 81

13. In a queue of girls, Shama is 11th from the starting and 27th from the last. How many girls are there in the queue?

(a) 37   (b) 43   (c) 35   (d) 36

14. Deepa moved a distance of 75 m towards the North. She then turned to the left and walk for about 25 m, turned left again and walked 80 m. Finally, she turned to the right. In which direction was she moving finally?

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

15. If '+' means '×', '−' means '÷', '×' means '+' and '÷' means '−'; compute the value of the expression $17 + 6 \times 13 \div 8 = ?$

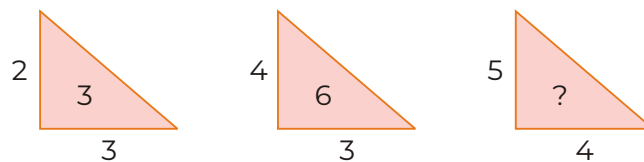(a) 100   (b) 107   (c) 110   (d) 109

16. In a group of five friends, Rohit is taller than Swati. Also, Manoj is shorter than Swati. Sumit is taller than Rohit while Aashish is shortest. Who amongst them is the tallest?

(a) Swati   (b) Rohit   (c) Sumit   (d) Manoj

17. In RESEARCH is $#!#%$&@, then SCARE is

(a) !&%$#   (b) !@%$#   (c) !$%#&   (d) !@%#$

18. Find the missing term in the following figure.

(a) 12   (b) 8   (c) 16   (d) 10

19. One day, Ravi left home and cycled 10 km Southwards, turned right and cycled 5 km and turned right and cycled 10 km and turned left and cycled 10 km. How many kilometres will he have to cycle to reach his home straight.

(a) 10 km   (b) 15 km   (c) 20 km   (d) 25 km

20. Find the odd one out.

(a) Tortoise   (b) Crab   (c) Frog   (d) Fish

21. I am facing North. I turn 135° in clockwise direction, then 180° in anti-clockwise direction. What direction am I facing now?

(a) North-East   (b) West

(c) South-East   (d) North-West

22. Arrange the given words according to English dictionary.

1. Episode   2. Epistle   3. Episcope   4. Epigraph

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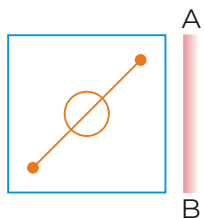
(c) 3, 2, 1, 4   (d) 1, 2, 3, 4

23. How many squares are there in the figure given below?
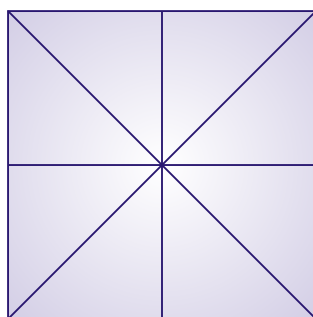
(a) 5   (b) 4   (c) 6   (d) 10

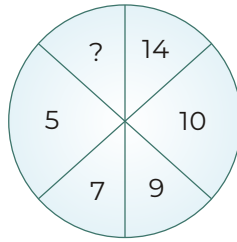**24.** Find the mirror image of the question figure.

Question Figure

Answer Figures

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

25. Select the missing number from the given responses.

(a) 2　　　　　(b) 3　　　　　(c) 4　　　　　(d) 18

26. In a row of trees, one tree is 7th from either end of the row. How many trees are there in the row?
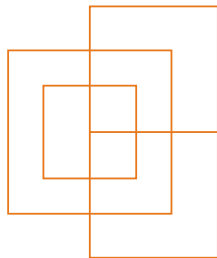
(a) 11　　　　　(b) 15　　　　　(c) 14　　　　　(d) 13

27. Find the correct water image of the word given in the question.

FROG

(a) ꟻᴚOC　　　　(b) GORF　　　　(c) ꟼOᴚꟻ　　　　(d) ꟻᴚOꟼ

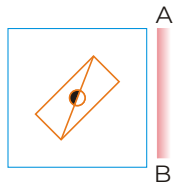**28.** How many straight lines are there in the figure given below?

(a) 12　　　　　(b) 13　　　　　(c) 14　　　　　(d) 15

29. If P means '÷', Q means '+', R means '–' and S means '×', then the value of 10 R 192 P 48 S 48 P 96 Q 1 is

(a) 10　　　　　(b) 9　　　　　(c) 8　　　　　(d) 7

30. Find the mirror image of the question figure.
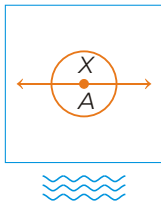
Question Figure

Answer Figures

(a) 　　(b) 　　(c) 　　(d)

31. If EXPLAIN is coded as BUMIXFK, then how will GYM be coded as?
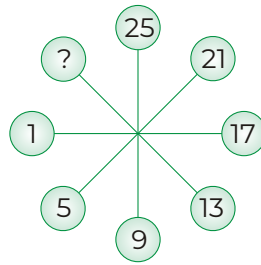
(a) YHN   (b) UJM   (c) DVJ   (d) IKL

32. Find the correct water image of the question figure given in the question.

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

33. Find the missing term in the following figure.

(a) 29   (b) 31   (c) 27   (d) 33

**34.** Find the correct water image of the word given in the question.

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(a) ꓕ8ɘ   (b) ꓡ8ɘ   (c) ꓕ86   (d) ꓡ86

35. Which word from the alternatives will come at third place in the English dictionary?

(a) Radical   (b) Radiate   (c) Racket   (d) Radius

36. In the following question, a question figure is given with four answer figures (a), (b), (c) and (d). Find out that answer figure which is embedded in the question figure (X).

Question Figure

(X)
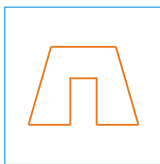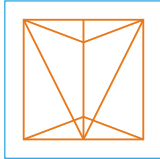
Answer Figures

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

37. If $9 \times 5 \times 2 = 529$ and $4 \times 7 \times 2 = 724$, then $3 \times 9 \times 8 = ?$
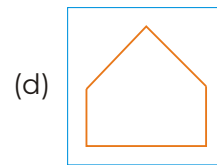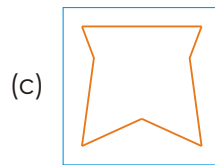
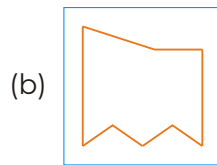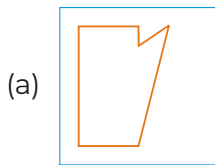(a) 983   (b) 839   (c) 938   (d) 893

Direction (Q. No. 38) In the following question, a question figure is given with four answer figures (a), (b), (c) and (d). Find out that answer figure which is embedded in the question figure (X).

38. **Question Figure**

(X)

Answer Figures

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

39. Find the word which can be formed by using the letters of the given word.

RATIONALISATION

(a) NATIONALIST   (b) NATIONALISTICS

(c) REALISATION   (d) SITUATION

40. From the given words, select the word which cannot be formed using the letters of the given word.

INFERNAL

(a) ALIEN   (b) FINAL   (c) LEARN   (d) URINE
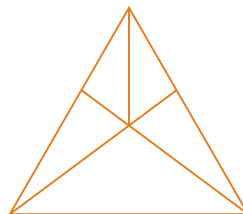
Section B (2 Marks Questions)

41. Kunal walks 10 km towards North. From there, he walks 6 km towards South. Then, he walks 3 km towards East. How far and in which direction is he with reference to his starting point?

(a) 5 km, West   (b) 7 km, West   (c) 7 km, East   (d) 5 km, North-East

42. Choose the odd letter group.

(a) BDGK   (b) JLOS   (c) NPSW   (d) MORU

43. How many triangles are there in the following figure?

(a) 11   (b) 16   (c) 14   (d) 12

44. In a row of students, Anil is 7th from left, while Sunil is 18th from right. Both of them interchanged their positions such that Anil becomes 21st from left. What will be the total number of students in the class?

(a) 38   (b) 33   (c) 31   (d) 30

45. Choose the pair from the given alternatives which is similar to the given pair.

BCD : EFG :: ? : ?

(a) L M N : O P Q   (b) P R S : S T V

(c) A B C : M N O   (d) X W V : Z Y Z

46. Find the missing characters in the following figure.

B	J	Q	E	?
2	10	17	?	8

(a) H and 8   (b) 6 and U   (c) H and 6   (d) 5 and H

47. In a certain code 'CALANDER' is written as 'CLANAEDR'. How is 'CIRCULAR' written in that code?

(a) ICCRLURA   (b) CRIUCALR   (c) CRIUCLRA   (d) CRIARLCU

48. Find the missing alternative.

AMN, BOP, CQR, ?

(a) BAS   (b) DST   (c) EQP   (d) FRS

49. If 2463 = 36 and 5552 = 30, then 6732 = ?

(a) 32   (b) 36   (c) 34   (d) 39

50. Find the water image of the following number-letter combination?

PQ8AF5BZ9

(a) ḆÓ8∀Ⅎ2BⱿə   (b) ḆÓ8∀Ⅎ2BⱿ6   (c) ḆÓ8∀ⅎ2BⱿ9   (d) PQ8AF2BZ℮

Solutions

1. (c) Here,

$$B \xrightarrow{+2} D, \qquad I \xrightarrow{+2} K$$
$$\boxed{P \xrightarrow{-2} N} \ , \quad S \xrightarrow{+2} U$$

All except PN follows the same pattern. So, PN is the odd one.

2. (c) The pattern of the series is,

$$H \xrightarrow{+1} I \xrightarrow{+2} K \xrightarrow{+3} N \xrightarrow{+4} \boxed{R}$$

3. (c) As, Arrow is released with the help of Bow, similarly a Bullet is released with the help of Rifle.

4. (a) The new alphabet series is

$$A \ C \ E \ \boxed{G} \ I \ K \ M \ O \ Q \ S \ U \ W \ Y$$

$$\underleftarrow{\hspace{4cm}}$$
10th from right end

The tenth letter from the right end is G.

5. (a)

he (is) good ⟶ pa (ka) na

she (is) brave ⟶ ra (ka) da

Here 'is' is common in both the messages. Similarly, the code 'ka' is common in the codes of both the messages.

So, 'is' → ka.

6. (b) As, Ohm, Watt, Ampere are measurement units of electricity. Similarly, Volt is the measurement unit of electricity.

7. (a) In each subsequent figure both types of designs interchange positions and the number of these designs is increased alternately.

8. (a) As,

$$\begin{array}{cccccc} M & I & G & H & T \\ 1 & 2 & 3 & 4 & 5 \end{array} \longrightarrow \begin{array}{ccccc} G & H & M & T & I \\ 3 & 4 & 1 & 5 & 2 \end{array}$$
(position)   (new position)

Similarly,

$$\begin{array}{ccccc} E & A & R & T & H \\ 1 & 2 & 3 & 4 & 5 \end{array} \longrightarrow \begin{array}{ccccc} R & T & E & H & A \\ 3 & 4 & 1 & 5 & 2 \end{array}$$
(position)   (new position)

9. (b) Each of the number except 27, is a prime number.

10. (b) Letter between G and Q

$$G \ H \ I \ J \ K \ \boxed{L} \ M \ N \ O \ P \ Q$$

Middle letter

Here, L is exactly midway between G and Q.

11. (c) The figure rotates through 180° anti-clockwise. On following the same pattern, the answer figure (c) will replace the question mark '?'.
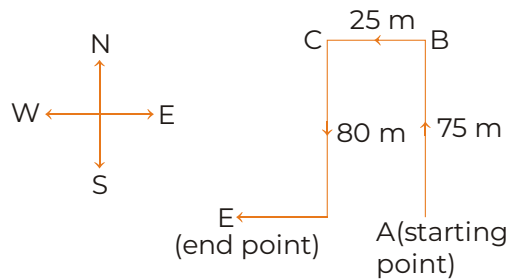
12. (d) According to question

$$49 \rightarrow 7^2$$
$$64 \rightarrow 8^2$$
$$\boxed{81} \rightarrow 9^2$$
$$100 \rightarrow 10^2$$
$$121 \rightarrow 11^2$$

∴ Option (d) is the correct answer.

13. (a) We know that,

Total number of girls in queue = (Rank of girl from starting + Rank of girl from last) -1

$$= (11 + 27) - 1 = 37$$

14. (c) According to the given information,

Clearly, she is moving towards West.

15. (b) Given,

$$17 + 6 \times 13 \div 8 = ?$$
$$\downarrow \quad \downarrow \quad \downarrow$$
$$17 \times 6 + 13 - 8 = 102 + 13 - 8 = 115 - 8 = 107$$

16. (c) According to the question,
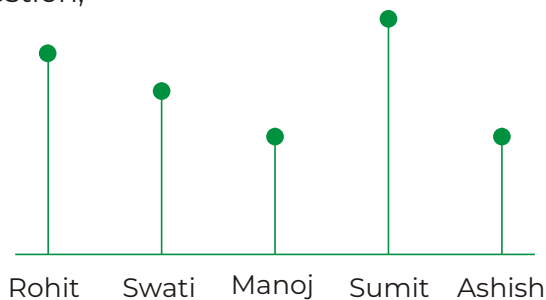
Rohit > Swati;   Manoj < Swati
or   Swati > Manoj;   Sumit > Rohit
and   Ashish is shortest.
Arranging the above data, we get
        Sumit > Rohit > Swati > Manoj > Ashish
Clearly, Sumit is the tallest.

17. (a) As,

R	E	S	E	A	R	C	H
$	#	!	#	%	$	&	@

Similarly, S C A R E

!	&	%	$	#

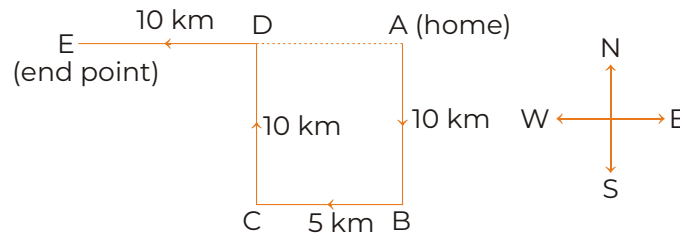**18.** (d) Here, the pattern is as follows,

$$\frac{2\times3}{2}=\frac{6}{2}=3 \quad \Rightarrow \frac{4\times3}{2}=\frac{12}{2}=6$$
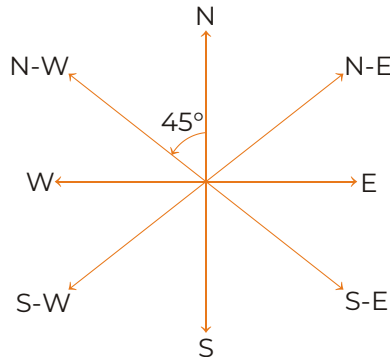
Similarly,

$$\frac{5\times4}{2}=\frac{20}{2}=10$$

19. (b) According to the given information,

Thus, his distance from initial position A = AE = AD+ DE = BC+ DE   [∵ BC = AD]
= (5+ 10) km = 15 km

20. (d) Except fish, all others are live both on land and water.

21. (d) Difference in degree = 180° – 135° = 45° anti-clockwise.

Hence, now I am facing in North-West direction.

22. (b) The correct sequence of words would be Epigraph, Episcope, Episode, Epistle i.e. 4, 3, 1, 2.

23. (a) According to question,
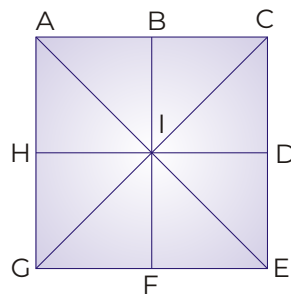
Smallest squares = ☐ABIH, ☐BCDI, ☐DEFI, ☐FGHI =4

Square formed with four squares (the largest square) = ☐ACEG =1

∴ Total number of squares = 4 + 1 = 5

24. (d) Here, the mirror is placed vertically at AB on the RHS of the question figure. Hence, only the figures given in answer figure (d) would be obtained as the correct mirror image.

25. (d) As, $7 \times 2 = 14$ and $5 \times 2 = 10$

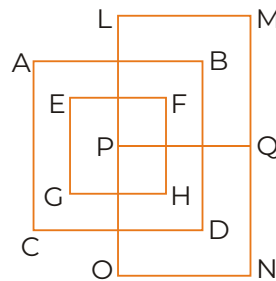Similarly, $9 \times 2 = 18$

26. (d) Here, position of tree from both the end is 7.
∴ Total number of trees $= 7 + 7 - 1 = 13$

27. (a) The given word's reflection would be seen in the water as

28. (b) According to question,


Horizontal lines = AB, EF, GH, CD, LM, PQ, ON = 7
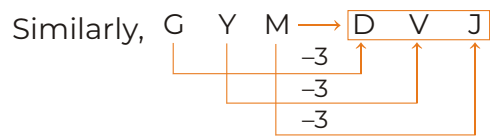Vertical lines = AC, EG, FH, BD, LO, MN = 6
∴ Total number of straight lines $= 7 + 6 = 13$

**29.** (b) Given,   10 R 192 P 48 S 48 P 96 Q 1
                ↓   ↓   ↓   ↓   ↓
$$= 10 - 192 \div 48 \times 48 \div 96 + 1$$
$$= 10 - 4 \times \frac{48}{96} + 1 = 10 - 4 \times \frac{1}{2} + 1 = 10 - 2 + 1 = 8 + 1 = 9$$

30. (a) Here, the mirror is placed vertically at AB on the RHS of the question figure. Hence, only the figure given in answer figure (a) would be obtained as the correct mirror image.

31. (c) As,   E X P L A I N ⟶ B U M I X F K

Similarly, G Y M ⟶ D V J
    −3
    −3
    −3
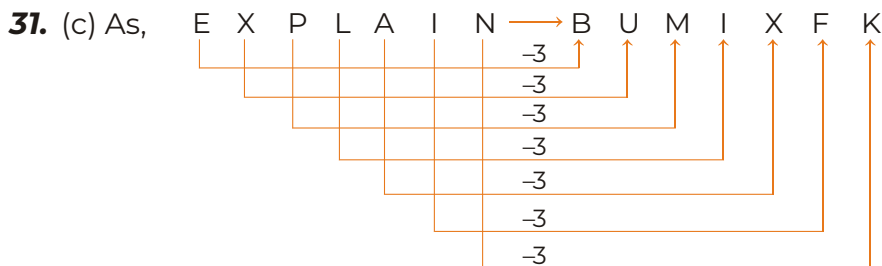
32. (d) The figure given in option (d) is the correct water image of the question figure.
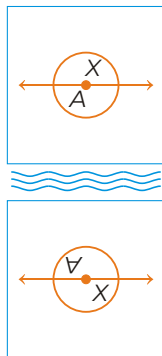
33. (a) Here, the pattern is as follows,

$$1+4=5;\ 5+4=9;\ 9+4=13$$
$$13+4=17;\ 17+4=21;\ 21+4=25$$
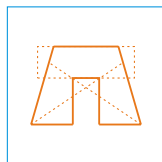$$25+4=\boxed{29}$$

34. (a) Reflection of the given number would be seen in the water as

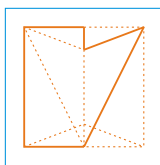**35.** (a) Racket, Radiate, Radical. Clearly, Radical is at third place.

**36.** (d) By carefully observation, we find that the figure (X) is embedded in figure (d) as shown below.

37. (a) As, 9 × 5 × 2 = 5 2 9 and 4 × 7 × 2 = 7 2 4

Similarly, 3 × 9 × 8 = 9 8 3

38. (a) By carefully observation, we find that the figure (a) is embedded in figure (X) as shown below.

39. (a) From the given word, 'NATIONALIST' can be formed because all the letters of this word are present in the given word.

40. (d) Only URINE cannot be formed from the letters of the given word.

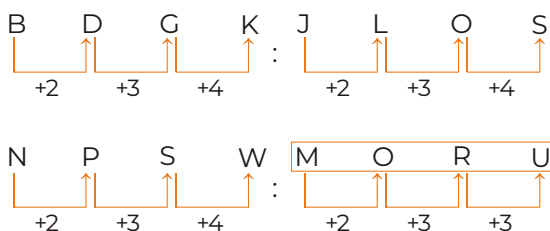**41.** (d) According to the given information,
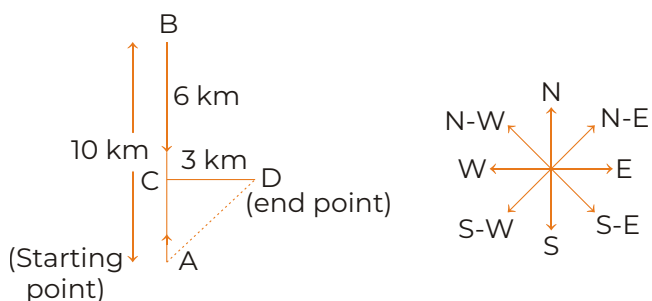
Then, $AC = (AB - BC) = (10 - 6) = 4$ km

Kunal's distance from starting point A

$$AD = \sqrt{AC^2 + CD^2} \text{ (Pythagoras theorem)}$$
$$= \sqrt{4^2 + 3^2} = 5 \text{ km}$$

Also, D is to the North-East of A.

42. (d) Here,

B D G K J L O S
+2 +3 +4 : +2 +3 +4

N P S W M O R U
+2 +3 +4 : +2 +3 +3

All except MORU, follows the same pattern. So, MORU is the odd one.

43. (d) Smallest triangles $= \Delta AOD, \Delta AOE, \Delta COE, \Delta BOD, \Delta BOC = 5$

Triangles formed with two triangles
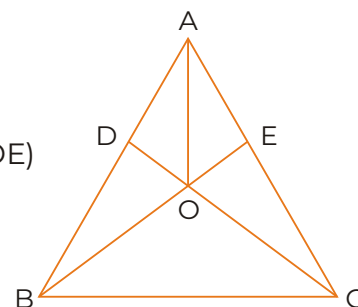$= \Delta AOC(\Delta AOE + \Delta COE), \Delta AOB (\Delta AOD + \Delta BOD)$
$\Delta BCD(\Delta BOD + \Delta BOC), \Delta BCE(\Delta BOC + \Delta COE) = 4$
Triangles formed with three triangles $= \Delta ACD(\Delta AOD + \Delta AOE + \Delta COE)$
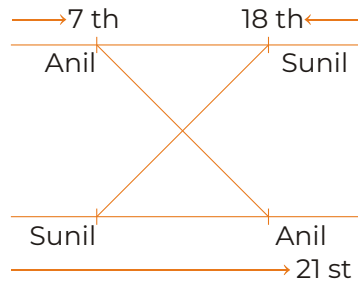$\Delta ABE (\Delta BOD + \Delta AOD + \Delta AOE) = 2$
Largest triangle $= \Delta ABC = 1$
$\therefore$ Total triangles $= 5 + 4 + 2 + 1 = 12$

44. (a)

∴ Anil moves $(21-7)=14$ places ahead and changed his place with Sunil.
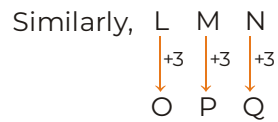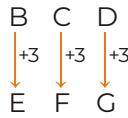
∴ Sunil will also move 14 places ahead.

∴ Sunil's new position from right end $=18+14=32$

We can also calculate the total number of students

$$= \text{(Anil's initial position)} + \text{(Sunil's new position)} - 1$$
$$= 7+32-1=38$$

45. (a) As,　B　C　D　　　　Similarly,　L　M　N
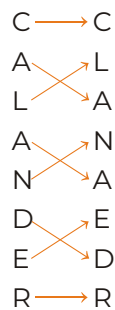　　　　　　 ↓+3 ↓+3 ↓+3　　　　　　　　　↓+3 ↓+3 ↓+3
　　　　　　 E　F　G　　　　　　　　　　　O　P　Q

46. (d) Here, in each box letters of English alphabetical series and their corresponding positions are given,

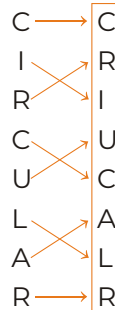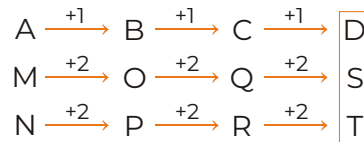As, $B=2, J=10, Q=17$

Similarly, $E=5$ and $H=8$

47. (b) As,　　C ⟶ C　　　　　Similarly,　C ⟶ C
　　　　　　　　A ⟍⟋ L　　　　　　　　　　 I ⟍⟋ R
　　　　　　　　L ⟋⟍ A　　　　　　　　　　 R ⟋⟍ I
　　　　　　　　A ⟍⟋ N　　　　　　　　　　 C ⟍⟋ U
　　　　　　　　N ⟋⟍ A　　　　　　　　　　 U ⟋⟍ C
　　　　　　　　D ⟍⟋ E　　　　　　　　　　 L ⟍⟋ A
　　　　　　　　E ⟋⟍ D　　　　　　　　　　 A ⟋⟍ L
　　　　　　　　R ⟶ R　　　　　　　　　　 R ⟶ R

48. (b) According to question,

$$A \xrightarrow{+1} B \xrightarrow{+1} C \xrightarrow{+1} \boxed{D}$$
$$M \xrightarrow{+2} O \xrightarrow{+2} Q \xrightarrow{+2} \boxed{S}$$
$$N \xrightarrow{+2} P \xrightarrow{+2} R \xrightarrow{+2} \boxed{T}$$

49. (a) As, $2463 \rightarrow (2+4+6)\times 3 = 12\times 3 = 36$

and　$5552 \rightarrow (5+5+5)\times 2 = 15\times 2 = 30$

Similarly, $6732 \rightarrow (6+7+3)\times 2 = 16\times 2 = \boxed{32}$

50. (a)

PQ8AF5BZ9