## Grade 7



## CREST Reasoning Olympiad (CRO) Sample Paper

## Pattern and Marking Scheme

| Grade | Topic/Section | No. of <br> Questions | Marks per <br> Question | Total <br> Marks |
| :---: | :---: | :---: | :---: | :---: |
| Grade 7 | Logical Reasoning | 40 | 1 | 40 |
|  | Achiever's Section | 10 | 2 | 20 |
| Grand Total |  | $\mathbf{5 0}$ |  | $\mathbf{6 0}$ |

The total duration of the exam is 60 minutes.

## Syllabus

Section 1: Series Completion and Inserting the Missing Character, Analogy and Classification, Blood Relations, Coding - Decoding, Direction Sense Test, Logical Venn Diagram, Alpha Numeric Sequence Puzzle, Number, Ranking and Time Sequence Test, Logical Sequence of Words, Alphabet Test, Mathematical Operations, Analytical Reasoning, Mirror Images and Water Images, Embedded Figures, Figure Formation, Construction of Squares, Grouping of Identical Figures, Figure Matrix, Paper Folding and Paper Cutting, Cubes and Dice, Dot Situations.

Achievers Section: Higher Order Thinking Questions - Syllabus as per Section 1
For more details, visit https://www.crestolympiads.com/reasoning-olympiad-cro

## Logical Reasoning (Each Question is 1 Mark)

1. In the following question, there is a certain relationship between the two numbers on the left side of ':.:' and one number is given on the other side of ' $: .1$ '. From the four given alternatives, choose the one which completes the second pair in the same way as the first pair. 423539: 422539 : : 253682 : ?
a. 251682
b. 252682
c. 252692
d. 256282
2. In the following question, there is a certain relationship between the two numbers on the left side of ' $::$ ' and one number is given on the other side of ' $: \because$ '. From the four given alternatives, choose the one which completes the second pair.
Helicopter : Aircraft : : Almond : ?
a. Expensive
b. Nut
c. Fruit
d. Cashew
3. Choose the odd one out:
a. June
b. March
c. July
d. January
4. If GARDEN is coded as MgfvTS, then how will READ be coded?
a. fTgv
b. TgSM
c. gTMf
d. vSgM
5. Which of the following diagrams indicates the best relation between aeroplane, ship and train?
a.

b.

c.

d.


6. Pointing to a woman, Kevin said, " She is the sister of my son's mother." How is the woman related to Kevin?
a. Sister
b. Mother
c. Sister-in-law
d. Aunt
7. How many triangles are there in the given figure?

a. 8
b. 9
c. 10
d. 11
8. How many circles are there in the figure given below?

a. 9
b. 10
c. 11
d. 12
9. A dice is thrown two times and its different positions are shown below. What number is opposite to the face shown as 2?

a. 3
b. 4
c. 5
d. 6
10. You go South, turn left, then right again and then go to the right. In which direction are you now?
a. East
b. West
c. North
d. South
11. If $\uparrow$ means ' + ', $\downarrow$ means ' $-1, \leftarrow$ means ' $x$ ' and $\rightarrow$ means ' - ' $^{\prime}$, then what is the value of $41 \leftarrow 5 \uparrow$ $37 \downarrow 91 \rightarrow 7$ ?
a. 225
b. 228
c. 229
d. 242
12. Identify and choose the correct pattern or figure that will complete the large square.

a.

b.

C.

d.

13. In the following pattern, replace the question mark by finding the missing number.

| A | D | H |
| :---: | :---: | :---: |
| F | I | M |
| $?$ | N | R |

a. K
b. N
c. O
d. $P$
14. Which one of the given options would be a meaningful order of the following words in ascending order?

1. Foetus
2. Child
3. Baby
4. Adult
5. Youth
a. $1,3,2,5,4$
b. $1,3,4,5,2$
c. $1,2,3,5,4$
d. $3,1,2,5,4$
6. Given, $B=8, L=7, O=5, C=9$ and $K=4$. Using the given total, find the missing symbol in the following block

| L | $?$ | K | K | K | $=$ | 24 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

a. L
b. O
c. B
d. K
16. By keeping in mind, the rule of the pattern, replace the question mark by finding the missing number.

a. 49
b. 45
c. 64
d. 56
17. If $F=6, M A T=34$, then how much is CAR?
a. 20
b. 21
c. 22
d. 25
18. A boy introduced a girl as the daughter of the son of the father of his uncle. How is the girl related to the boy?
a. Aunt
b. Niece
c. Sister
d. Grand-daughter
19. Select the related figure from the given alternatives:

a.

b.

c.

d.

20. How many even numbers are there in the following sequence of numbers which are immediately followed by an odd number as well as immediately preceded by an even number?
86768932753422355228119
a. 3
b. 4
c. 5
d. 6
21. Which one of the given responses would be a meaningful order of the following words?

1. Lung
2. Nostrils
3. Windpipe
4. Blood
a. $1,2,3,4$
b. $2,3,1,4$
c. $1,3,4,2$
d. $4,3,2,1$
5. If ' + ' means ' $-\div$ '. 'x' means ' + ', '-' means 'x', and ' $-\underset{\prime}{ }$ ' means '-' then which of the following equations is correct?
a. $36 \times 6+3-2<20$
b. $36 \times 6+3 \times 2>20$
c. $36+6 \times 3+2=2$
d. $36+6-3 \times 2<20$
6. Find the number of triangles and squares in the given figure.

a. 28 triangles, 3 squares
b. 24 triangles, 5 squares
c. 28 triangles, 5 squares
d. 24 triangles, 3 squares
7. Count the number of triangles in the given diagram.

a. 32
b. 20
c. 14
d. 28
8. Make a group of the given figures into three classes using each figure only once.

a. 1,$4 ; 2,3 ; 5,6$
b. 1,$5 ; 2,6 ; 4,3$
c. 1,$6 ; 2,3 ; 4,5$
d. 1,$2 ; 3,6 ; 4,5$
9. Which one of the following options can be made from the pieces given in $(\mathrm{x})$ ?

(x)
a.

b.

c.

d.

10. Among the four answer figures which one can be formed from the cut-out pieces given in the question figure?

a.

b.

c.

d.

11. A square transparent sheet with a pattern is given. Find out from among the four alternatives how the pattern would appear when the transparent sheet is folded at the dotted line.

a.

b.

c.

d.

12. Pointing towards a photograph, Sam said, "She is the only daughter of only child of my grandfather". How is the girl related to Sam?
a. Daughter
b. Niece
c. Sister
d. Mother
13. In the following question, certain pairs of words are given, out of which the words in all pairs except one, bear a certain common relationship. Choose the odd pair.
a. Crime : Punishment
b. Judgement: Advocate
c. Enterprise: Success
d. Exercise : Health
14. In the following question, four options are given. Out of these three are alike in a particular way but remaining one is different. Find the odd one from the given options which is different from others.
a. 26
b. 64
c. 124
d. 728
15. If in a certain code language, 'RAMAN' is written as '23.5' and 'CAP' is written as '10', then how will 'CAPACITY' be written in that code?
a. 39
b. 48
c. 49
d. 50
16. In a certain language, 'sun shines brightly' is written as 'ba lo sul','houses are brightly lit' as 'kado ula ari ba' and 'sun rises from East' as 'dopi kup lo mo'. What are the code words for 'sun' and 'brightly'?
a. ba, sul
b. sul, lo
c. lo, ba
d. ba, lo
17. Tom ranked $9^{\text {th }}$ from the top and $38^{\text {th }}$ from the bottom in a class. How many students are there in the class?
a. 42
b. 44
c. 46
d. 48
18. Kevin remembers that his brother Ana's birthday is after the $20^{\text {th }}$ of August but before the $28^{\text {th }}$ of August, while Rose remembers that Ana's birthday is before the $22^{\text {nd }}$ of August but after the $12^{\text {th }}$ of August. On which date does Ana's birthday fall?
a. $20^{\text {th }}$ August
b. $21^{\text {st }}$ August
c. $22^{\text {nd }}$ August
d. Cannot be determined
19. From the given suitable options find the water image of the object given in the question figure.

a.

b.

c.

d.

20. In the following question, there is a certain relationship between the two given numbers on one side of $(\because:)$ and one number is given on another side of $(\because:)$ where another number is to be found from the given alternatives, having the same relationship with this number as the numbers of the given pair bear. Choose the best alternatives.
$6: 35: 7:$ ?
a. 13
b. 39
c. 48
d. 49
21. In the following letter series, some of the letters are missing which are given in that order as one of the alternatives below it. Select the correct alternative.
_OPQ N_PQ NO_Q NOP_
a. ONQP
b. NOQP
c. NOPQ
d. PQNO
22. The question given below contains three items. These items may or may not have some relation with one another. Each group of items may fit into one of the option diagrams. Please indicate the diagram in which the group of items correctly fits into.
Which of the following diagrams indicates the best relation amongst living beings, animals, men?
a.

b.

C.

d.

23. Here certain pairs of words are given, out of which the words in all pairs except one, bear a common relationship. Choose the odd pair.
a. Door: Bang
b. Piano: Play
c. Rain : Patter
d. Drum : Beat

## Achiever's Section (Each Question is $\mathbf{2}$ Marks)

41. Study the following information carefully and answer the following question.

Member of a family A, B, C, D, E, F and G are sitting together. A is son of G who is brother of $F, F$ is mother of $E$ and $B$. $E$ is brother of $B$ and $B$ is sister of $C$. $C$ is a male. $D$ is a female and child of $C$.
Which of the following is the pair of females?
a. BA
b. GF
c. FC
d. FB
42. Among $A, B, C$ and $D, B$ is heavier than $A$ and $C$ but $C$ is taller than him. $D$ is not as tall as $C$ while $A$ is the shortest. $C$ is not as heavy as $A$. $D$ is heavier than $B$ but shorter than him. Who is the tallest?
a. D
b. C
c. A
d. B
43. Jasper drove his car 5 km towards an eastward direction. He turned right went for 3 km then he turned west and drove 1 km . How far is he from the starting point?
a. 5 km
b. 8 km
c. 10 km
d. 15 km
44. A man starts from his home and walks 10 km towards South. Then, he turns right and walks 6 km , again he turns right and goes 10 km . Finally, he turns right and walks 5 km . At what distance is he from his straight point?
a. 1 km
b. 2 km
c. 3 km
d. 5 km
45. Six faces of a cube are painted as below:

1. Red opposite to black
2. Green in between red and black
3. Blue adjacent to white
4. Brown adjacent to blue
5. Bottom face with red

Find the colour opposite to brown.
a. White
b. Red
c. Green
d. Blue
46. This question has a statement followed by two assumptions numbered I and II. An assumption is something supposed or taken for granted. Consider the statement and the following assumptions.
Statement- It is felt that when the airline is facing stiff competition coupled with a precarious financial position, the top-level posts should be kept open for outside professionals rather than internal candidates.

## Assumptions

I. Internal candidates aspire only for getting promotions, without much contribution.
II. Experienced professionals are more likely to handle the problems of the airline.
a. Only assumption I is implicit
b. Only assumption II is implicit
c. Both assumption I and II are implicit
d. Neither assumption I not assumption is implicit
47. Read the following information carefully and then answer the question based on that. From amongst five doctors $A, B, C, D$ and $E$, four engineers $G, H, K$ and $L$ and six teachers $M, N, O, P, Q$ and $R$, some teams are to be selected. Of these $A, B, G, H, O, P$ and $Q$ are females and the rest are males. The formation of teams is subject to the following conditions.

1. Whenever there is a male doctor, there will be no female teacher.
2. Whenever there is a male engineer, there will be no female doctor
3. There shall not be more than two male teachers in any team.

If the team consists of three doctors, two male engineers and two teachers, the members of the team could be
a. CDEKLMN
b. ABCKLMR
c. CDEKLPR
d. BCDKLNR
48. In this question, relationship between different elements is shown in the statements. The statements are followed by two conclusions.
Statements: $A=B \leq C, A>R$
Conclusions: (i) $B>R$, (ii) $R<C$
a. Only conclusion
(i) is true
b. Only conclusion (ii) is true
c. Both conclusions (i) and (ii) are true
d. Both conclusions (i) and (ii) are not true
49. David started walking towards North. After walking 30 m , he turned towards the left and walked 40 m . He then turned left and walked 30 m . He again turned left and walked 50 m . How far is he from his original position?
a. 30 m
b. 40 m
c. 50 m
d. 90 m
50. The pair of opposite faces of a solid cube having sides 3 cm are black, blue and yellow, respectively. After the painting this cube is divided into smaller cubes of side 1 cm . How many smaller cubes have only one face painted?
a. 4
b. 6
c. 9
d. 12

## Answer Key

| 1. | b | 2. | b | 3. | a | 4. | a | 5. | d | 6. | c | 7. | a |  |  |  |  |  |  |  |  |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. | a | 9. | c | 10. | b | 11. | c | 12. | c | 13. | a | 14. | a |  |  |  |  |  |  |  |  |
| 15. | b | 16. | c | 17. | c | 18. | c | 19. | d | 20. | b | 21. | b |  |  |  |  |  |  |  |  |
| 22. | b | 23. | c | 24. | a | 25. | a | 26. | a | 27. | a | 28. | d |  |  |  |  |  |  |  |  |
| 29. | c | 30. | b | 31. | b | 32. | a | 33. | c | 34. | c | 35. | b |  |  |  |  |  |  |  |  |
| 36. | d | 37. | c | 38. | c | 39. | d | 40. | b | 41. | d | 42. | b |  |  |  |  |  |  |  |  |
| 43. | a | 44. | a | 45. | a | 46. | b | 47. | a | 48. | c | 49. | d |  |  |  |  |  |  |  |  |
| 50. | b |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

