



## CREST Reasoning Olympiad (CRO)

# Sample Paper

## Pattern and Marking Scheme

Grade	Topic/Section	No. of Questions	Marks per Question	Total Marks
Grade 8	Logical Reasoning	40	1	40
	Achiever's Section	10	2	20
<b>Grand Total</b>		<b>50</b>		<b>60</b>

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. Select the pair which shows similar relationship that is shown by the following pair.  
ABC : CDE

- a. LNM : NOO  
c. PQR : QRS
- b. PDF : RFH  
d. XYZ : ZAX

2. KLM is related to MLK in the same way HIJ is related to \_\_\_\_\_.

- a. JIH  
c. IHJ
- b. IJH  
d. HJI

3. Find the missing number in the given series.

68	56	46	38	32	?
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- a. 24  
c. 28
- b. 26  
d. 30

4. Find the missing number in the given series.

6	14	24	36	?	66
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- a. 49  
c. 52
- b. 50  
d. 58

5. Find the odd one out.

- a. 64  
c. 99
- b. 81  
d. 49

6. Choose the odd one out:

- a. Orange  
c. Colour
- b. Red  
d. Green

7. If CALANDER is coded as CLANAEDR, then CIRCULAR is coded as \_\_\_\_\_.

- a. ICCRLURA  
c. ICRCLUAR
- b. CRIUCLRA  
d. CRIUCALR

8. If RAID is written as %#©\$ and RIPE is coded as %©@\*, then DEAR is coded as \_\_\_\_\_.

- a. \$\*#%  
c. \$%\*#
- b. \*#%\$  
d. #%\$\*

9. If 'red' is called 'pink', 'pink' is called 'black', 'black' is called 'white' and 'white' is called 'blue', then the colour of milk is \_\_\_\_\_.

- a. black
- b. white
- c. blue
- d. pink

10. In the following question, the letters of the words (given in the options) have been jumbled up. Reconstruct the words and identify the one which is the answer to the given clue.

A number

- a. MSEUO
- b. ANBAAN
- c. PPRUEL
- d. EVENLE

11. Study the information carefully, to answer the question.

In a school, there were five teachers A, B, C, D and E. A and B were teaching Hindi and English. C and B were teaching English and Geography. D and A were teaching Mathematics and Hindi. E and B were teaching History and French.

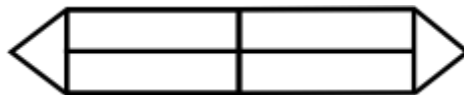
D, B and A were teaching which of the following subjects?

- a. English only
- b. Hindi and English
- c. Hindi only
- d. English and Geography

12. Sara is the daughter of Rose. Mike is the brother of Rose. Samantha is the wife of Mike. How is Samantha related to Sara?

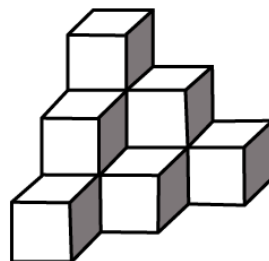
- a. Sister
- b. Aunt
- c. Mother
- d. Grandmother

13. How many rectangles are there in the figure given below?



- a. 7
- b. 8
- c. 9
- d. 10

14. Count the number of small cubes in the following figure.



- a. 8
- b. 10
- c. 12
- d. 13

15. Count the number of small cubes in the following figure.

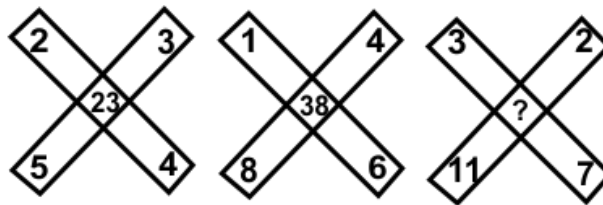


- a. 36
- b. 32
- c. 30
- d. 27

16. A is South-West of B, C is the South-East of B, then C is in which direction of A?

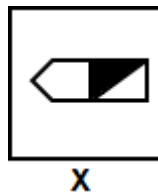
- a. West
- b. East
- c. South
- d. North-East

17. Which number will replace the question mark?



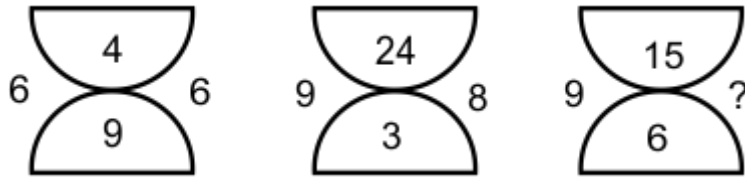
- a. 43
- b. 42
- c. 44
- d. 41

18. In the following question, choose the correct mirror image of the given figure (X), if a mirror is placed vertically on the left side of the figure.



- a.
- b.
- c.
- d.

19. Choose the missing number to complete the given series.



- a. 7  
b. 8  
c. 10  
d. 12

20. In a certain code, 'R' is '%', 'E' is '#', 'D' is '@' and 'A' is 'Δ'. How is 'DARE' written in that code?

- a. @%Δ#  
b. @Δ%#  
c. %#Δ@  
d. #Δ%@

21. A boy goes to see a film and finds a man who is his relative. The man is the husband of the sister of his mother. How is the man related to the boy?

- a. Brother  
b. Nephew  
c. Uncle  
d. Brother-in-law

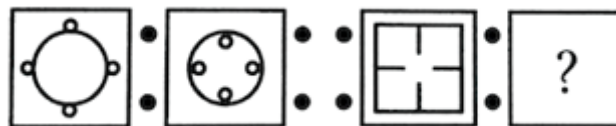
22. Robert is the brother of Arthur. Rachel is the sister of Sam. Arthur is the son of Rachel. Arthur is the son of Rachel. How is Robert related to Rachel?


- a. Nephew  
b. Son  
c. Brother  
d. Father

23. 11 is related to 145 as 14 is related to \_\_\_\_\_.

- a. 155  
b. 198  
c. 226  
d. 286

24. In the following question, select the related figures from the given alternatives.



- a. 
- b. 
- c. 
- d. 

25. Arrange the following words as per order in the dictionary.

1. Billian
2. Bifurcate
3. Bilateral
4. Bilirubin

- |               |               |
|---------------|---------------|
| a. 2, 1, 3, 4 | b. 4, 3, 2, 1 |
| c. 2, 3, 4, 1 | d. 2, 3, 1, 4 |

26. Which is the correct sequence of the water cycle?

1. Evaporation
2. Rain
3. Sea
4. Clouds

- |               |               |
|---------------|---------------|
| a. 1, 2, 3, 4 | b. 4, 1, 2, 3 |
| c. 3, 1, 4, 2 | d. 2, 4, 1, 3 |

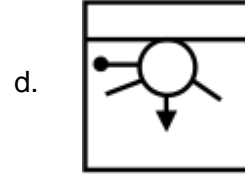
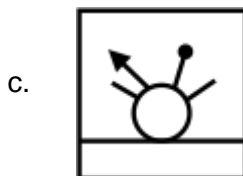
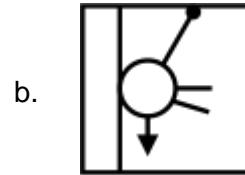
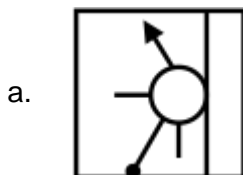
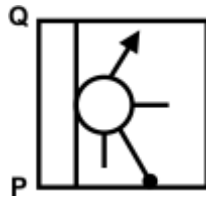
27. If 'P' denotes 'multiplied by', 'T' denotes 'subtracted from', 'M' denotes 'added to' and 'B' denotes 'divided by' then, what should be the correct response of 12 P 6 M 15 T 16 B 4?

- |       |        |
|-------|--------|
| a. 70 | b. 75  |
| c. 83 | d. 110 |

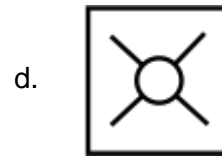
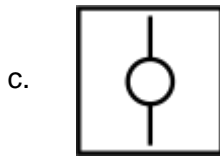
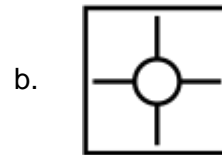
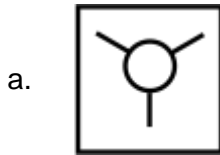
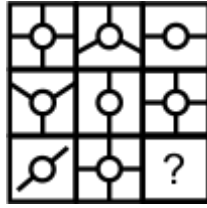
28. Richard is facing west. He turns  $45^\circ$  in the clockwise direction and then another  $180^\circ$  in the same direction and then  $270^\circ$  in the anticlockwise direction. Which direction is he facing now?

- |               |               |
|---------------|---------------|
| a. South-West | b. North-West |
| c. West       | d. South      |

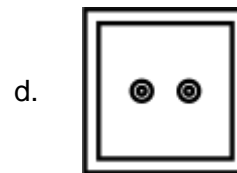
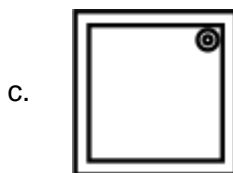
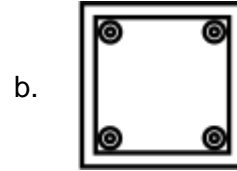
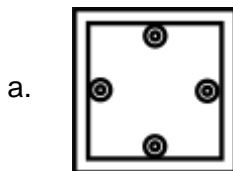
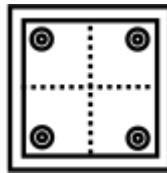
29. Which of the following answer figures is exactly the mirror image of the question figure when the mirror is held on the line PQ?



30. In the following question, find out which of the option figures completes the figure matrix?



31. A square sheet of paper has been folded twice and punched and then unfolded. The pattern of holes on the sheet of paper has been shown as in the question figure. Find out the punched whole pattern when the question figure is folded twice.



32. Which of the following will replace '&' to balance the given equation?

$$7 \& 4 \& 8 \& 2 = 24$$

a. -, × and ×

b. -, × and ÷

c. ×, - and ÷

d. ×, ÷ and -

33. What comes in place of the question mark in the following letter series?

NATURAL, NATURA, ATURA, ?

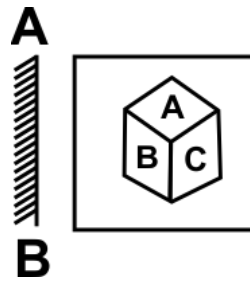
a. ATUR

b. TURA

c. RUTA

d. ARUT

34. In the following question, choose the correct mirror image from the alternatives, when mirror is placed on the line AB.

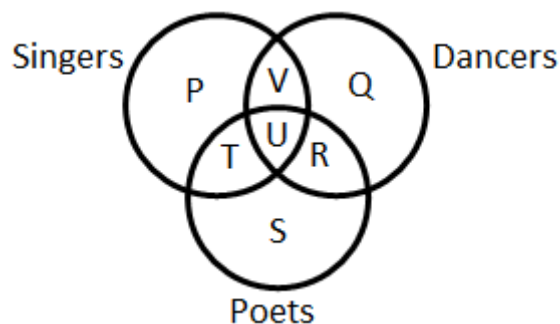


- a.
- b.
- c.
- d.

35. 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 images. Please indicate the option in which the group of items correctly fits into.  
Picture, TV, Radio

- a.
- b.
- c.
- d.

36. The diagram represents the students who are dancers and poets.  
Study the diagram below and identify the region which represents the students who are both poets and singers but not dancers.





- a. P + T + S
- c. T + U + R + S

- b. T
- d. P + T + U + S

37. 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.

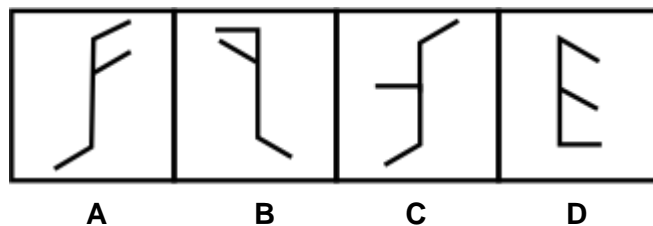
- a. Tree : Stem
- c. Chair : Sofa

- b. Face : Eye
- d. Plant : Flower

38. From the given suitable options, find the water image of the object given in the question figure.



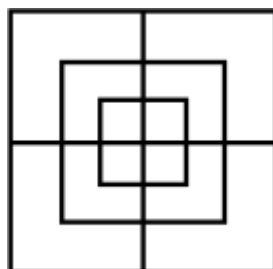
39. In the following question, four figures are given. Three are similar in a certain way and so form a group. Find out which one of the figures does not belong to that group.



- a. A
- c. C

- b. B
- d. D

40. How many squares are there in the following figure?

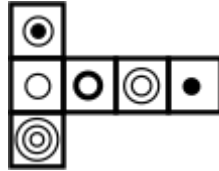


- a. 13  
c. 15

- b. 14  
d. 16

## Achiever's Section (Each Question is 2 Marks)

41. In the following question, an unfolded dice is given with the four options in the form of complete dice. Select the correct answer choice which is formed by unfolded dice.



42. In the following question, there is a certain relationship between the two given numbers on one side of ( $:$ ) and one number is given on another side of ( $:$ ) 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 has. Choose the best alternatives.

20 : 11 :: 102 : ?

- a. 49  
c. 61

- b. 52  
d. 98

43. The age of Austin is same as Kevin because they are twins, Rachel is younger than Kevin, Rachel is younger than Jerry but elder than Jack, Kevin is younger than Jerry. Who is the eldest among them?

- a. Austin  
c. Rachel

- b. Jerry  
d. Jack

44. In this question, the relationship between different elements is shown in the statements. The statements are followed by two conclusions.

Statements:  $P < Q = R \geq S \geq T$

Conclusions: I.  $T \leq Q$ , II.  $R > P$

- a. Only conclusion I is true  
c. Both conclusions I and II are true

- b. Only conclusion II is true  
d. Neither conclusion I nor II is true

45. 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.

a\_b\_abb\_ab\_a\_bba

- a. bbaab
- b. babba
- c. baaba
- d. aabba

46. Sam walked 30 m towards South, took a left turn and walked 15 m. He, then took a right turn and walked 20 m. He again took a right turn and walked 15 m. How far is he from the starting point?

- a. 40 m
- b. 50 m
- c. 70 m
- d. 95 m

47. In making decisions about an important question, it is desirable to be able to distinguish between 'strong' arguments and 'weak' arguments. 'Strong' arguments are those which are both important and directly related to the question. 'Weak' arguments are those which are of minor importance and also may not be directly related to the question or may be related to a trivial aspect of the question. The question below is followed by two arguments numbered I and II. You have to decide which of the arguments is a 'strong' argument and which is a 'weak' argument?

**Statement-** Should young entrepreneurs be encouraged?

**Arguments**

I. Yes, they will help in the industrial development of the country.

II. Yes, they will reduce the burden on the employment market.

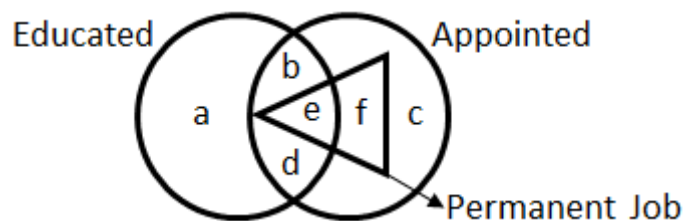
- a. Only argument I is strong
- b. Only argument II is strong
- c. Either argument I or argument II is strong
- d. Both argument I and argument II are strong

48. In the question given below, there are two statements A and B. These statements may be either independent causes or may be effects of independent causes or of a common cause. One of these statements may be the effect of the other statement. Read both the statements and decide which of the following answer choices correctly depicts the relationship between these two statements.

- A. Most of the shopkeepers in the locality closed their shops for the second continuous day.
- B. Two groups of people living in the locality have been fighting with each other with bricks and stones, forcing people to stay indoors.

- a. Statement A is the cause and statement B is its effect
- b. Statement B is the cause and statement A is its effect
- c. Both the statements are independent causes
- d. Both the statements are effects of independent causes

49. In the following diagram, identify the region that represents appointed educated persons whose job is not permanent.



- a. b and a
- b. a and d
- c. a and c
- d. b and d

50. Which of the following will be the correct mirror image of the given figure, when the mirror is placed vertically to the right?



## Answer Key

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