



CREST Teacher Reasoning Olympiad (CTRO)

# Sample Paper

### Pattern and Marking Scheme

Stage	Topic/Section	No. of Questions	Marks per Question	Total Marks
For Stage III (Grades 7-8)	Logical Reasoning	30	3	90
	Achiever's Section	20	6	120
<b>Grand Total</b>		<b>50</b>		<b>210</b>

The total duration of the exam is 60 minutes.

**Note:** For every incorrect answer, there's a penalty of 1/3rd of the total marks allotted to that question.

## Syllabus

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 and Triangles, Grouping of Identical Figures, Figure Matrix, Paper Folding and Paper Cutting, Cubes and Dice, Dot Situations

For more details visit: <https://www.crestolympiads.com/teacher-reasoning-olympiad>

## Logical Reasoning (Each Question is 3 Marks)

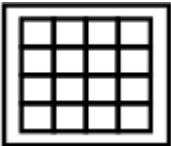



1. Three words are given in the following question, which have something in common among themselves. Out of four given alternatives, choose the most appropriate option which is similar to these three words:

Bleat : Howl : Gibber

- a. Grunt                      b. Leap  
c. Stuck                      d. Duck



2. From the given figures, select the one in which the question figure is embedded?

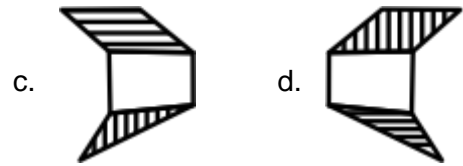


- a.       b. 
- c.       d. 

3. In the following question, choose the correct mirror-image of Fig. (X) from amongst the four alternatives (a), (b), (c) and (d) given:



- a.       b. 



4. Read the following information and answer the question given below it:  
Six students A, B, C, D, E and F are sitting in the field. A and B are from P House while the rest belong to Q House. D and F are tall while the others are short. A, C and D are wearing glasses while the others are not.

Which tall student of Q House is not wearing glasses?

- a. B                              b. C  
c. E                              d. F

5. The following question consists of two words each that have a certain relationship with each other. Select the pair that has the same relationship as the original words:

Water : Oxygen

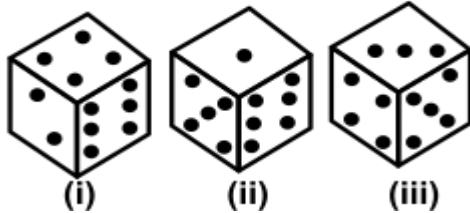
- a. Helium : Nitrogen  
b. Salt : Sodium  
c. Tree : Plant  
d. Food : Hunger

6. In the following question, arrange the given words in a meaningful sequence and then choose the most appropriate sequence from amongst the alternatives provided:

1. Travel
2. Destination
3. Payment
4. Birth/Seat number
5. Reservation
6. Availability of berth/seat for reservation

- a. 1, 2, 5, 4, 3, 6
- b. 2, 6, 3, 5, 4, 1
- c. 5, 3, 4, 1, 6, 2
- d. 6, 2, 5, 4, 3, 1

7. How many dots lie opposite to the face with 2 dots?



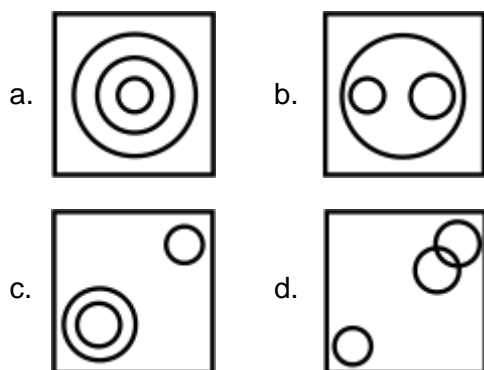
- a. 3
- b. 4
- c. 5
- d. 6

8. One morning Richard started to walk towards his school. After covering 5 km distance in East, he turned to the left and walk 2 km, then again turns to the right and walk 5 km. He again turns to the left. Now, in which direction is he facing?

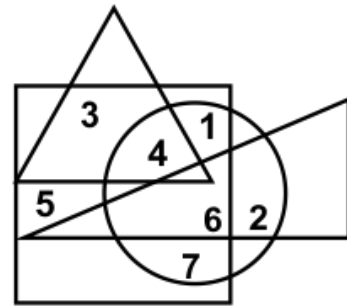
- a. East
- b. West
- c. North
- d. South

9. Choose from the given four option figures, the one that best illustrates the relationship among three classes:

Minutes, Days, Months

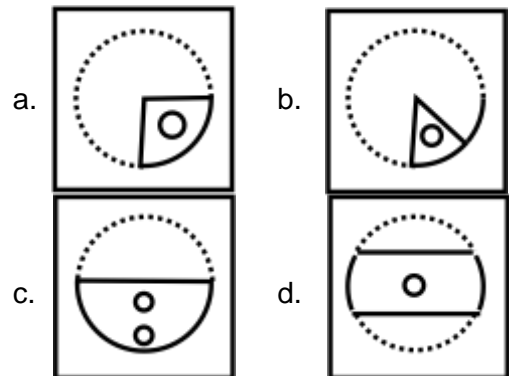
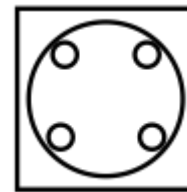


10. Which number is present only in one figure?



- a. 1
- b. 3
- c. 5
- d. 7

11. A circular sheet of paper is folded in a particular manner and a punch is made. When unfolded, the paper appears as given in the question figure. Find out the manner in which the paper is folded and punch is made from the responses given:



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

Statements:

$$S > C \geq O, P < C$$

Conclusions

- I.  $O < P$
- II.  $S > P$

- a. Only Conclusion I is true
- b. Only Conclusion II is true
- c. Either Conclusion I or II is true
- d. Neither Conclusion I nor II is true

13. Three of the following four are alike in a certain way and so form a group.

Which of the following does not belong to that group?

- a. 13
- b. 17
- c. 19
- d. 27

14. If + means  $\times$ ,  $\times$  means  $\div$ ,  $\div$  means + and  $\times$  means  $\div$ , then  $15 - 3 + 10 \times 5 \div 5 = ?$

- a. 5
- b. 22
- c. 48
- d. 52

15. In the following question, you are given a combination of alphabet and/or numbers followed by four alternatives (a), (b), (c) and (d). Choose the alternative which most closely resembles the mirror-image of the given combination:

**BR4AQ16HI**

- a. **IH91Q16HIBR4AQ**
- b. **IH91Q16HIBR4AQ**
- c. **IH91Q16HIBR4AQ**
- d. **IH91Q16HIBR4AQ**

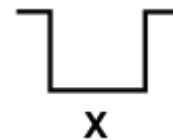
16. Study the following arrangement carefully and answer the question given below:

T 4 © T 2 E % M P 5 W 9 @ L Q R 6 U  
H 3 Z 7 \* A T B 8 V # G S Y D

Which of the following is the 10<sup>th</sup> to the right of the 19<sup>th</sup> element from the right end of the above arrangement?

- a. M
- b. T
- c. #
- d. 2

17. In the following question, you are given a fig. (X) followed by four alternative figures (a), (b), (c) and (d) such that fig. (X) is embedded in one of them. Trace out the alternative figure which contains fig. (X) as its part:



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

18. In the following question, you have to identify the correct response from the given premises stated according to the following symbols.

If + means  $\div$ ,  $\times$  means  $\times$ ,  $\div$  means + and  $\times$  means  $\div$ , then  $63 \times 24 + 8 \div 4 + 2 - 3 = ?$

- a. 54
- b. 66
- c. 87
- d. 48

19. How many cubes are unseen in the given figure?



- a. 5                      b. 6  
c. 10                     d. 15

20. X is towards south of P, P is towards west of Y. Y is towards which direction from X?

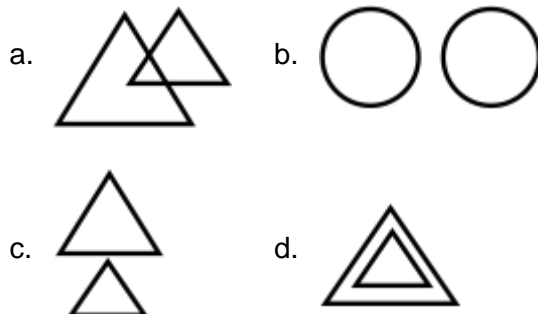
- a. East                    b. West  
c. North-East          d. North-West

21. Find the odd one out:

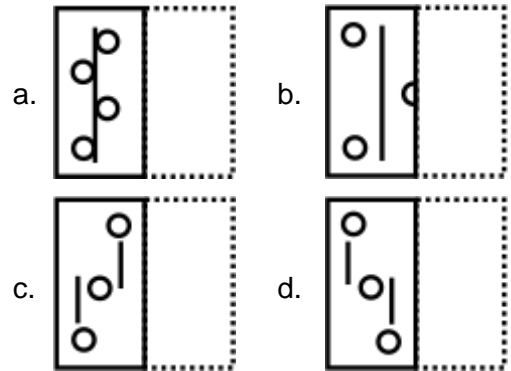
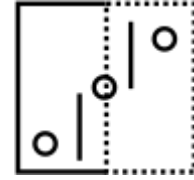
<b>2468</b>	<b>1357</b>	<b>3579</b>	<b>1346</b>
(a)	(b)	(c)	(d)

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

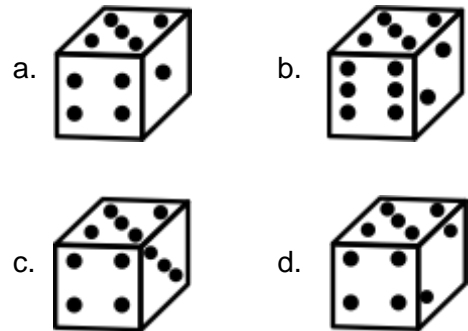
22. Which of the following diagrams represents the relationship between players and footballers?



23. In the following problem, a square transparent sheet with a pattern is given. Figure out from amongst the four alternatives, which pattern would appear when the transparent sheet is folded at the dotted lines.



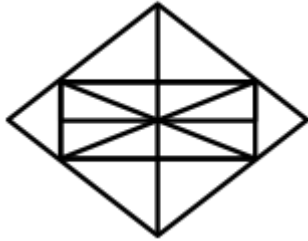
24. Amongst the following figures, find the correct one, if it is known that the total number of dots on opposite faces of the cube shown is always 7.



25. If 'X' stands for '+', 'Z' stands for '÷', 'Y' stands for '-', and 'P' stands for 'x', then what is the value of  $10 P 2 X 5 Y 5 = ?$

- a. 15                      b. 20  
c. 23                      d. 27





26. Count the minimum number of straight lines used in forming the given figure in the following question:



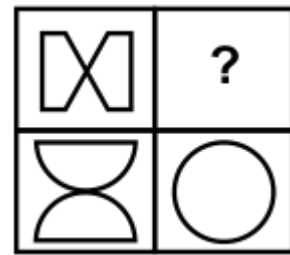
- a. 12                      b. 15  
c. 18                      d. 20





27. Select the option figure which satisfies the same conditions of the placement of dots as in the question figure.



- a.       b.   
c.       d. 

28. Choose the answer figure which completes the problem figure matrix.



- a.       b.   
c.       d. 

29. Arrange the following words according to English dictionary.

1. Hepatitis
2. Cholera
3. Peptidoglycan
4. Chitin

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

30. How many meaningful words can be formed by using the second, eighth and fourteenth letters of the alphabetical series?

- a. One                              b. None  
c. Two                              d. Three

## Achievers' Section (Each Question is 6 Marks)

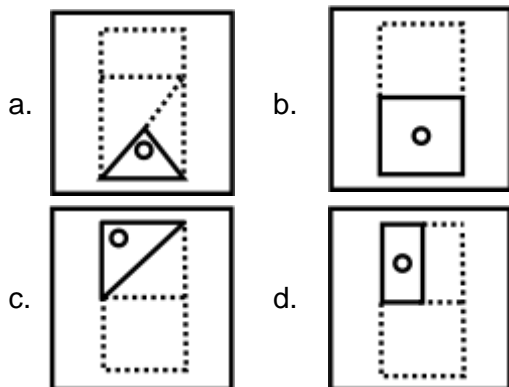
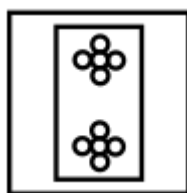
**31.** Ron starts from his house and goes towards 15 m North, then he turns his right and walks 30 m before taking a right turn and moving again up to 30 m to reach a temple. In which direction is the temple with respect to Ron's house?

- a. North-west      b. South  
c. South-east      d. West

**32.** Sam's sister is the wife of Richard. Richard is Kate's brother. Richard's father is Micahel. Susan is Richard's grandmother. Rose is Susan's daughter-in-law. Robert is Kate's brother's son. Who is Robert to Sam?

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

**33.** A rectangular paper is folded in a particular manner and a punch is made. When unfolded, the paper appears as given below. Find out the manner in which the paper is folded and punch is made from the responses given:



**34.** Examine carefully the following statements and answer the three items that follow. Out of four friends A, B, C and D

- I. A and B play football and cricket
- II. B and C play cricket and hockey
- III. A and D play basketball and football
- IV. C and D play hockey and basketball

Which game do B, C and D play?

- a. Basketball          b. Hockey  
c. Cricket              d. Football

**35.** 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. Austin is a healthy boy.
- B. His mother is very particular about the food he eats.

- 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 statements are independent causes
- d. Both statements are effects of independent causes

**36.** In a row of girls, Kate is fifth from the left and Alice is sixth from the right. When they exchange their positions, then Kate becomes thirteenth from the left.

What will be Alice's position from the right?

- a. 7<sup>th</sup>                      b. 14<sup>th</sup>  
c. 11<sup>th</sup>                     d. 18<sup>th</sup>

37. Which of the following options can be used to form the dice given below?

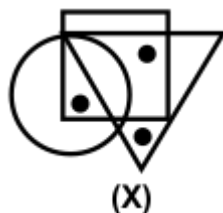


- a.      b.
- c.      d.

38. If A = '+', B = '-', C = 'x' and D = '÷', then which of the following equations is correct?

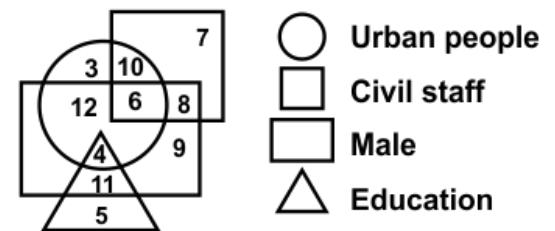
- a. 8 A 8 B 8 C 8 = -48  
b. 3 A 3 B 3 C 3 A 3 D 3 = 41  
c. 9 C 9 B 9 D A 9 = 17  
d. 8 B 6 D A 4 C 3 = 15

39. A question figure is given below which has three dots. This figure is followed by four answer figures. As the position of dots is placed in the question figure, in the same way, one option of the answer figures displays the same relation. Find out the correct alternative:



- a.      b.
- c.      d.

40. Identify the people who are educated males but who do not live in an urban area:



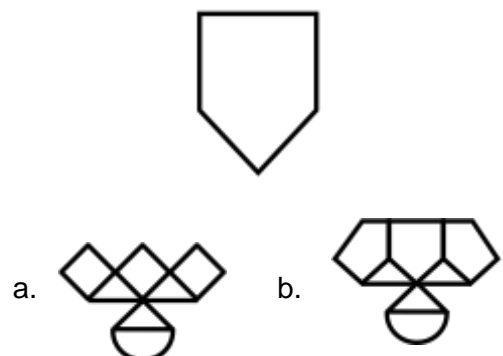
- a. 4                              b. 11  
c. 15                            d. 9

41. 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 (::). From amongst the four given alternatives, choose the one which completes the second pair:

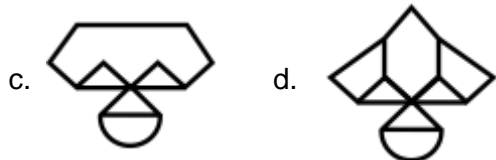
HCM : FAK :: SGD : ?

- a. QEB                        b. QIB  
c. ESQ                        d. GES

42. Select the answer figure in which the given question figure is embedded.





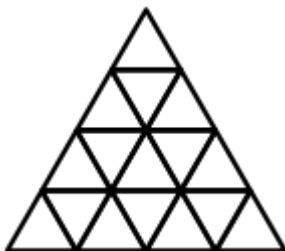


43. Identify the pattern and find out the missing number:



- a. 55                      b. 60  
c. 65                      d. 67

44. Count the number of parallelograms in the following figure:



- a. 47                      b. 45  
c. 41                      d. 39

45. Point Q is 12 meters to the north of point P. Point R is 13 meters to the South East of point Q. Point P is to the West of point R. Point T is to the north of point R and to the East of point Q. Then what is the shortest distance between point P and T?

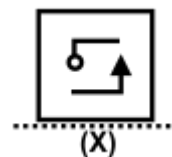
- a. 13 meters              b. 12 meters  
c. 18 meters              d. 20 meters


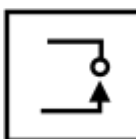


46. In this question, choose the alternative which represents the most meaningful arrangement of the following words.

1. Devil
2. Cat
3. Eleven
4. By
5. Evil

- a. 42513                      b. 51342  
c. 42315                      d. 32145

47. In the following question, choose the correct water image of the given figure.

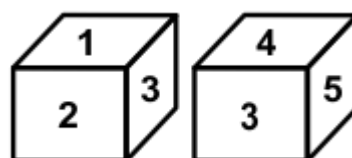


- a. 
- b. 
- c. 
- d. 

48. In the following question, there is 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 bear. Choose the best alternatives: 85 : 40 :: 77 : ?

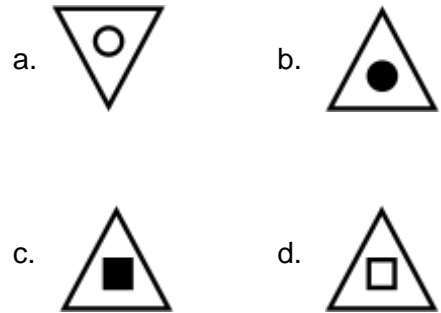
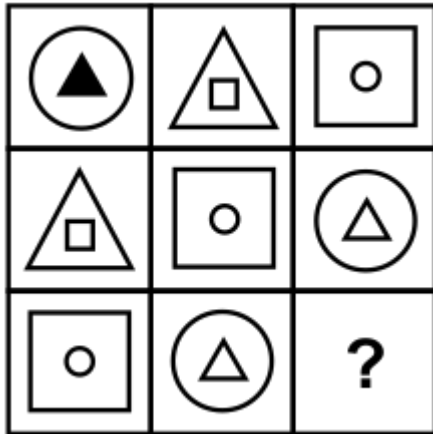
- a. 14                      b. 48  
c. 49                      d. 50

49. Two different positions of a cube are shown below. Which number will appear on the face opposite to the face marked '5'?



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

50. Choose the answer figure which completes the problem figure matrix.



### Answer Key

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