



CREST Teacher Reasoning Olympiad (CTRO)

Sample Paper

Pattern and Marking Scheme

Stage	Topic/Section	No. of Questions	Marks per Question	Total Marks
For Stage II (Grades 4-6)	Logical Reasoning	30	3	90
	Achiever's Section	20	6	120
Grand Total		50		210

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.

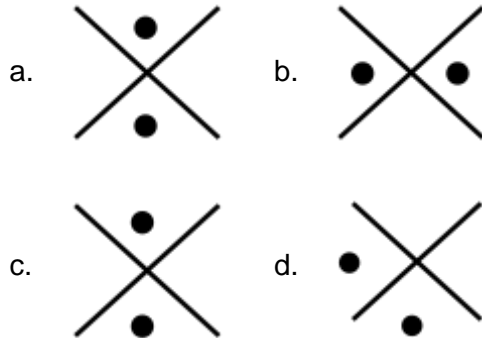
Syllabus

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

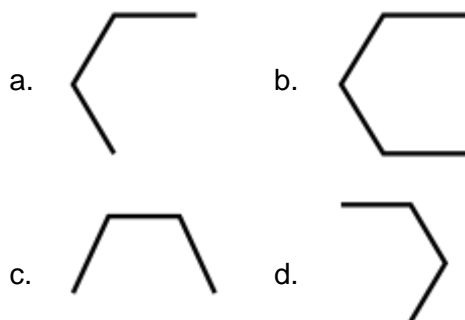
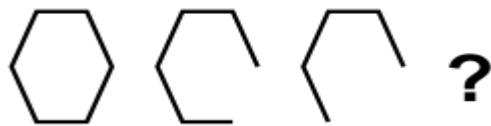
For more details visit: <https://www.crestolympiads.com/teacher-reasoning-olympiad>

Logical Reasoning (Each Question is 3 Marks)

1. Choose the figure that does not belong to the group:



2. In the following figure, a pattern is followed. Find the next figure which will continue the series:



3. Point A lies midway between point C and B. Point C is to the west of point A. In which direction is point B with respect to point C?

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

4. The table given below consists of letters. Which letter will replace the question mark(?)?

A	B	C
C	D	E
F	?	H

- a. E b. I
c. G d. J

5. In the following question, four words have been given out of which three are alike in some manner, while the fourth one is different. Choose the odd one out:

- a. Crow b. Pigeon
c. Parrot d. Butterfly

6. If the English alphabet series is written in reverse order, then which letter will be fifth to the left of letter M?

- a. G b. H
c. S d. R

7. Austin reached a certain place on Friday and found that he reached three days earlier than required. Had he reached the place on coming Sunday, then how many days earlier or later he would have reached the place?

- a. One day before
b. One day after
c. 2 days after
d. 2 days before

8. In a cricket tournament four teams viz. KKR, RR, DC and KIP qualified for the semifinals. Each of these team played 10 matches. There is no such team which won all of their matches.

DC and RR won even number of matches.

The team which won 4 matches did not qualify for the semifinals.

RR won less matches than DC.

KKR and KIP won less matches than RR.

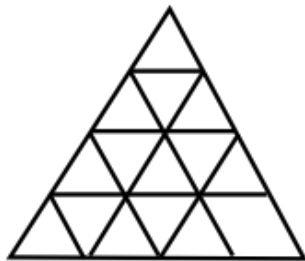
How many matches did KKR win?

- a. 7 b. 5
c. 6 d. 9

9. Find the missing number in the following series:
132, 121, 110, 99, ?

- a. 87 b. 81
c. 88 d. 86

10. How many straight lines are there in the following figure?



- a. 9 b. 11
c. 15 d. 48

11. Arrange the given words in alphabetical order and tick the one that comes at the second place:

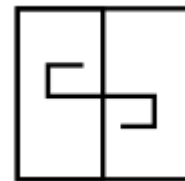
- a. Basis b. Baste
c. Bask d. Bassinet

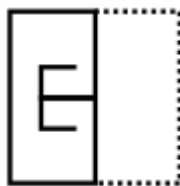
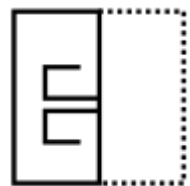
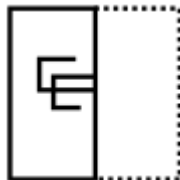
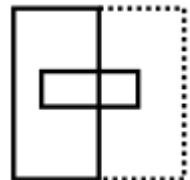
12. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series:

48, 24, 96, 48, 192, ?

- a. 76 b. 90
c. 96 d. 98

13. In the following question, a transparent sheet having certain design on either sides of vertical center line is given. One out of these four alternatives is obtained by folding the transparent sheet along the center line. Choose the correct option:



- a.  b. 
c.  d. 

14. If '%' means 'x', '#' means '÷', '&' means '+' and '@' means '-', then what will be the result of $12 @ 4 \& 8 \% 2$?

- a. 16 b. 24
c. 32 d. 12

15. If 'Q + R' means 'Q is mother of R', 'Q ÷ R' means 'Q is brother of R', 'Q × R' means 'Q is husband of R', 'Q - R' means 'Q is sister of R', then how is A related to B, if it is given that $B + C \div D \times A$?

- a. Mother-in-law
b. Aunt
c. Daughter-in-law
d. Sister-in-law

16. How many such pairs of letters are there in the word "DELETE" which has as many letters between them as there are in the English alphabetical series?

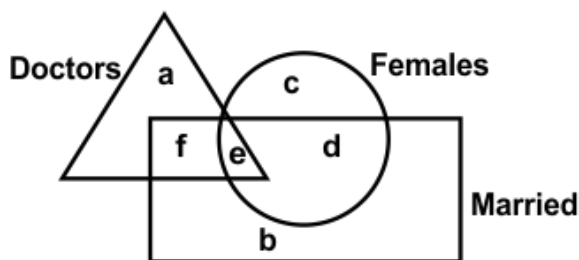
a. One b. Two
c. Three d. None

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

DED249RS

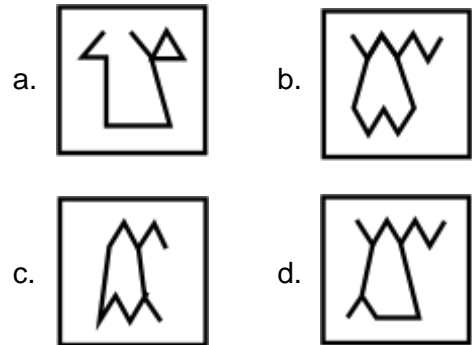
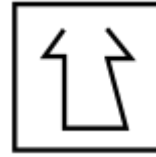
a. **SR6249RS**
b. **DEDS49RS**
c. **SR942DED**
d. **SR942DED**

18. In the following figure, triangle represents doctor, oval represents females and rectangle represents married persons. Then which part of the figure represents female doctors who are married?



a. f b. e
c. a + r d. a

19. In the following question, find the answer figure in which question figure is embedded:



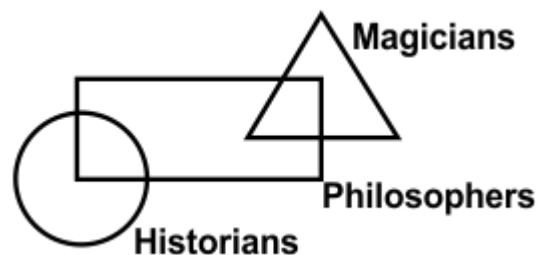
20. Read the following information carefully and answer the question given below:
A cube is painted red on two adjacent surfaces and black on the surfaces opposite to red surfaces and green on the remaining faces. Now, the cube is cut into 64 smaller cubes of equal size.

How many smaller cubes have no face coloured?

a. 24 b. 16
c. 8 d. 10

21. Read the following information and then answer the question that follows.
In the figure, the rectangle stands for philosophers, circle for historians and triangle for magicians.

According to the below diagram, which one of the following statements is true?



- a. All philosophers are magicians but no magician is a historian.
- b. All magicians are either historians or philosophers.
- c. Some philosophers are historians and some magicians are philosophers.
- d. Some historians, who are philosophers, are magicians too.

22. Harry started walking from his home. After walking 3 km, he turned left to move 4 km towards the North. In which direction did Harry start his journey?

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

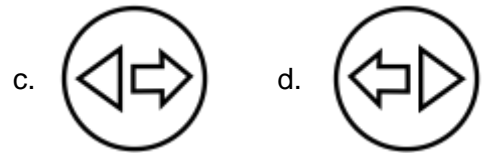
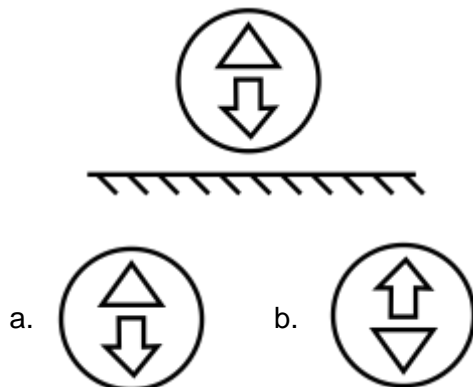
23. How many edges are invisible in a cube?

- a. 5
- b. 4
- c. 2
- d. 3

24. Nora remembers that David's birthday lies between the 11th and 15th of June. Kate also remembers that David's birthday occurs before the 13th of June. When is the birthday of David, if both of them are correct?

- a. 13th June
- b. 14th June
- c. 12th June
- d. 11th June

25. Which of the following will be the correct mirror image of the given figure?



26. If in a certain code language, 'NAME' is written as 'MZLD', then how will 'PEON' be coded in that language?

- a. ODNM
- b. ODMN
- c. ONDM
- d. OMND

27. In the following series, replace the question mark (?) with the suitable option.

27, 32, 30, 35, 33, ?

- a. 28
- b. 31
- c. 36
- d. 38

28. Study the following information carefully to answer the question:

- I. 'A \$ B' means 'A is the mother of B'.
- II. 'A # B' means 'A is the father of B'.
- III. 'A @ B' means 'A is the husband of B'.
- IV. 'A % B' means 'A is the daughter of B'.

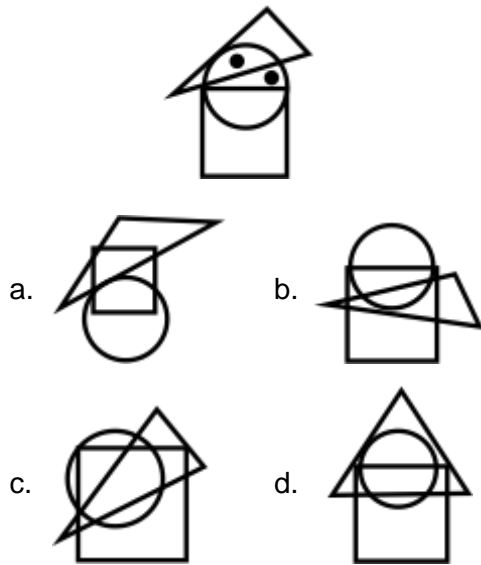
Which of the following expressions indicates 'H is the brother of N'?

- a. N%F@D\$H
- b. N%F@D%H
- c. H%F@D\$N#R
- d. H#R%D\$N

29. In a certain code, CAST is written as 5&%8 and TRACK is written as 8*&53. How is CRACKS written in that code?

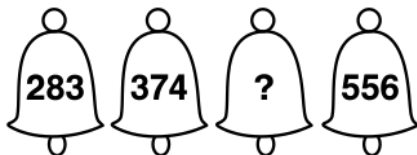
- a. 3*&53%
- b. 5*&53%
- c. 8*&53%
- d. 5*&53%

30. Choose the option figure which satisfies the similar condition of dots placement as shown in the question figure.



Achievers' Section (Each Question is 6 Marks)

31. Bells hanging in a temple have some digits depicted on it. They are hanging in an order and the digits on the third bell is missing. Find the missing digit:



- a. 346 b. 245
c. 456 d. 465
32. In the following question, find out the correct pair of words which will make an appropriate analogical relationship between the two words to the left of the sign of double colon and the same relationship between the two words to the right of the sign of (::) double colon:
A : Roots :: House : B

- a. A. Branches, B. Walls
b. A. Flower, B. Walls
c. A. Trunk, B. Floor
d. A. Tree, B. Foundation

33. If 15th June falls on 3 days after tomorrow which is Friday, then what day of the week will fall on the last date of the month?

- a. Monday b. Tuesday
c. Wednesday d. Thursday

34. Which of the following most closely resembles the mirror image of the given word, if the mirror is placed vertically to the right?

CANDY

a. **YDNAC**

b. **YDNAC**

c. **CYNAD**

d. **CANDY**

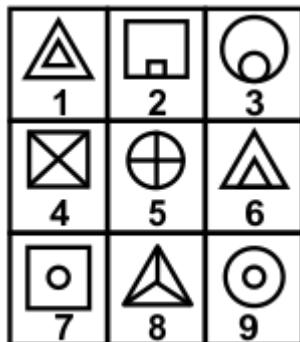
35. Kate goes 30 metres North, then turns right and walks 40 metres, then again turns right and walks 20 metres, then again turns right and walks 40 metres. How many metres is he from his original position?

a. 0 b. 10
c. 20 d. 40

36. If 'football' is called 'hockey', 'hockey' is called 'badminton', badminton' is called 'cricket', 'cricket' is called 'tennis', 'tennis' is called 'squash' and 'squash' is called 'chess', then which game is Sachin Tendulkar associated with?

a. Squash b. Cricket
c. Badminton d. Tennis

37. In the following question, group the figures into the three classes using each figure only once:



a. 1, 7, 9; 2, 3, 6; 4, 5, 8
b. 1, 2, 9; 3, 4, 6; 5, 7, 8
c. 1, 6, 8; 2, 4, 7; 3, 5, 9
d. 1, 7, 8; 2, 9, 3; 6, 4, 5

38. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series: 3, 12, 27, 48, 75, 108, ?

a. 147 b. 162
c. 183 d. 192

39. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series:

2, 3, 3, 5, 10, 13, ?, 43, 172, 177

a. 23 b. 38
c. 39 d. 40

40. How many meaningful words of four letters can be formed by using the second, third, fifth and seventh letter of the word "Solution", using each letter only once?

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

41. Six girls namely, Bili, Bety, Sita, Kity, Sia and Kim were born in six different months of the same year starting from January to June. Bety was born in March. Bety and Bili were born in consecutive months. Sita is older than Kim. Sita and Kim were born in the months which have 30 days. Kity is younger than Sia.

Who among the following was born in June?

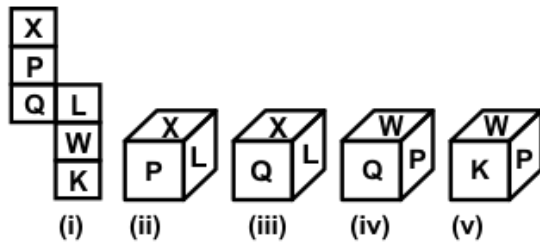
a. Kim b. Kity
c. Sia d. Sita

42. In the following question, all the equations except one have been solved according to a certain rule. You are required to solve the unsolved equation following the same rule and to choose the correct answer out of the given options:

If $5 * 6 * 7 = 789$, $4 * 2 * 5 = 647$, $5 * 1 * 7 = 739$, then $3 * 6 * 2 = ?$

a. 584 b. 484
c. 251 d. 473

43. Choose the box that will be formed by folding the sheet of paper given in fig(i):

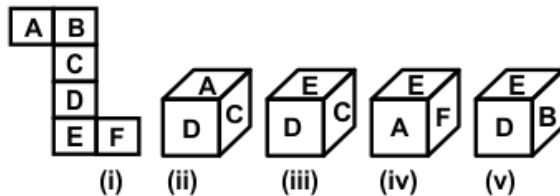


- a. Only (iii) b. Only (iv) and (ii)
c. Only (v) d. Only (ii)

44. If 'A - B' means 'A is the father of B', 'A ÷ B' means 'A is the sister of B', 'A × B' means 'A is the husband of B', 'A + B' means 'A is the mother of B', then how is P related to R, if it is given that $P \times Q + R \div S$?

- a. Aunt b. Sister-in-law
c. Uncle d. Father

45. Choose the box that will be formed by folding the sheet of paper given in fig(i):



- a. Only (ii) b. Only (iii)
c. Only (v) d. Only (ii) and (iv)

46. How many meaningful words can be formed by using the second, fifth, twenty first and twelfth letters of the alphabetical series?

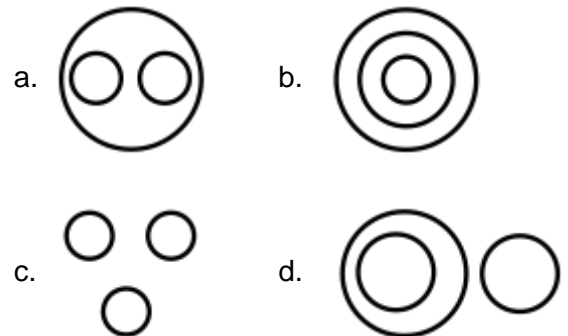
- a. None b. One
c. Two d. Three

47. One evening, Robert and Barry were facing towards each other. Robert's shadow fell towards Barry's right. In which direction was Barry facing?

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

48. Which of the following Venn diagram best represents the relationship among the given classes?

Robots, machines, engineers



49. Read the following information carefully and then answer the question based on them.

In a cycling race, five participants from various nations- Chinese, Nepalese, Indians, Iraqi and English take part. Track 1 is extreme left and track 5 is extreme right.

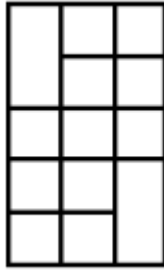
The following condition exists:

- I. The Nepalese and English are not cycling adjacent to each other.
- II. The Iraqi is not in any of the extreme tracks.
- III. The Chinese is to the left of the Indians.

If the Nepalese is in track 3, the Chinese in track 1, then the Indian could be in _____.

- a. track 4 b. track 2
c. track 2 or 4 d. None of the above

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



- a. 19 b. 15
c. 18 d. 20

Answer Key

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