CREST Reasoning Olympiad (CRO)

Previous Year Paper (2023-24)

Class 9 (Set - A)

Time Allowed: 1 hour **Maximum Marks: 60**

- Additional **10 minutes** will be allotted to fill up information on the OMR Sheet, before the start of the exam.
- Fill in all the mandatory fields clearly on the OMR Sheet.
- There are a total of **50 questions** in this booklet comprising **2 sections** namely the **Logical Reasoning & Achievers' Section** consisting of **40 questions (1 mark each) & 10 questions (2 marks each)** respectively.
- There is no negative marking. The use of a calculator is not permitted.
- There is **only ONE correct option** to a given question.
- Use **HB Pencil / Ball point pen (Blue / Black) only** for marking the correct choice of answers on the OMR Sheet.
- Rough work is to be done in the space provided in the test booklet. Extra plain sheet may be provided by the school for the rough work.
- The OMR Sheet is to be handed over to the invigilator at the end of the exam.
- No candidate is allowed to carry any textual material, printed or written, bits of paper, any electronic device, digital watches, etc. inside the examination hall.
- The use of unfair means may result in the cancellation of the exam. Any such instances must be reported at **+91-98182-94134** or **info@crestolympiads.com**

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

FILL IN THE DETAILS

Candidate Name: _____

Class: _____ Section: _____

CREST ID: _____

Logical Reasoning (Each Question is 1 Mark)

1. If in a certain code language 'NAME' is written as 'MOZBLNDF, 'FUN' is written as '0QTVM0', then how will 'TALK' be coded in that language?

    a. SUZBKMUL
    b. SUZBKMLT
    c. SUZKBMLT
    d. SUZKBIML

2. If 'T' means (x), 'U' means (-), 'X' means (÷) and W means (+), then what will be the value of the following expression?
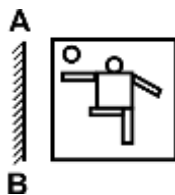(50 X 2) W (28 T 4)

    a. 142
    b. 158
    c. 137
    d. 163

3. What comes in place of question mark in the following letter series?
DF, GJ, KM, NQ, RT, ?

    a. UX
    b. UW
    c. YZ
    d. XZ

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


    a.
    b.
    c.
    d.

5. Introducing Arya to guests, Bob said, "Her father is the only son of my father". How is Arya related to Bob?
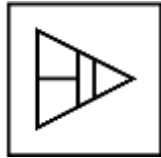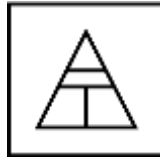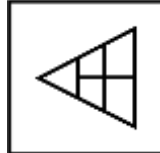
    a. Daughter
    b. Mother
    c. Sister
    d. Niece

6. Pointing to a girl, Jack said. "She is the daughter of my mother's only child". How is the girl related to Jack?

    a. Sister
    b. Mother
    c. Daughter
    d. Cousin

7. In the following question, find the figure out of the answer choices figures, that can be formed by joining the pieces given in the question figure:
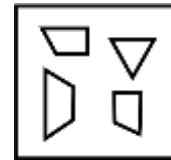
    a.
    b.
    c.
    d.

8. 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 alternatives:
a_ ba _ bb _ ab_ a

    a. baab
    b. aaba
    c. abab
    d. baaa

9. A solid cube is formed with 27 smaller cubes. One pair of opposite faces of this cube is painted red, another pair is painted yellow and the third pair of opposite faces is painted white. How many smaller cubes have two faces painted?

a. 8   b. 12
c. 16   d. 24

10. Identify the pair which has the same relationship as the pair given below:
EXPLORE : DISCOVER

   a. Read : Skim
   b. Research : Learn
   c. Write : Print
   d. Think : Relate

11. Choose the number which completes the second pair in the same way as the first pair:
2548 is to 1032, as 9243 is to _____.

   a. 1112   b. 3606
   c. 1812   d. 1306

12. Identify the second pair in the same way as the first pair:
DP : 2/4

   a. IY : 3/5   b. YI : 3/5
   c. L/M : 3/2   d. O/A : 5/1

13. Identify the second pair in the same way as the first pair:
JB : 20

   a. PC : 40   b. PC : 48
   c. KL : 20   d. MJ : 30

14. If 1 2 = 3.5, 3 5 = 19, then 5 4 = ?

   a. 30   b. 40
   c. 24.5   d. 20

15. Study the following information carefully and answer the question:

Letters	B	V	M	L	D	P	A	E	R
Codes	9	2	1	7	5	3	6	4	8

Find the code of LPEMB.

   a. $3$59   b. 97$3$
   c. 7$4$9   d. 9$34$

16. A, B and C are sisters. D is the brother of E and E is the daughter of B. How is A related to D?

   a. Sister   b. Cousin
   c. Niece   d. Aunt

17. Find the wrong term in the given series:
1, 2, 9, 28, 64, 126

   a. 28   b. 126
   c. 64   d. 2

18. Complete the following series:

19. In the following question, replace the question mark (?) with a suitable option?
980, 392, 156.8, ?, 25.088, 10.0352

   a. 65.04   b. 60.28
   c. 62.72   d. 67.8

20. Identify the rule that has been used to fill in the entries of the given matrix and determine which of the four given alternatives will replace the question mark.

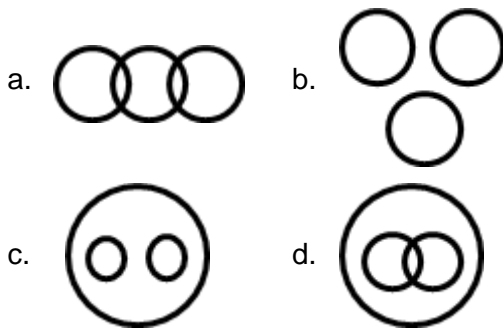| 2	9	6
12	2	4
6	8	?

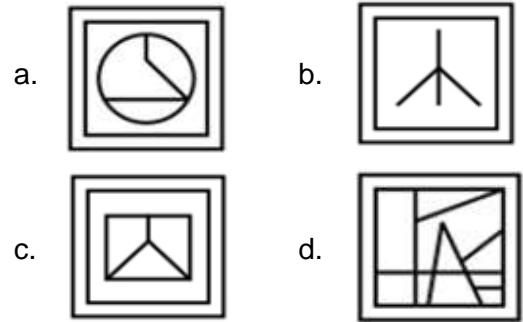a. 8   b. 10
c. 6   d. 9

a. 11   b. 16
c. 15   d. 9

21. Some equations are solved on the basis of a certain system. Find the correct answer for the unsolved equation on the same basis:
678 = 366, 567 = 255, 946 = ?

a. 334   b. 499
c. 699   d. 634
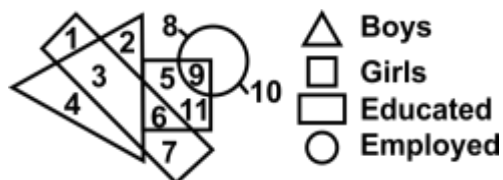
22. Which of the following diagrams illustrates the relationship among "Hydrogen, Water and Oxygen"?

a.   b.

c.   d.

23. Study the following diagram carefully and answer the following question: How many educated persons are employed?

a. 17   b. 15
c. 27   d. None of these
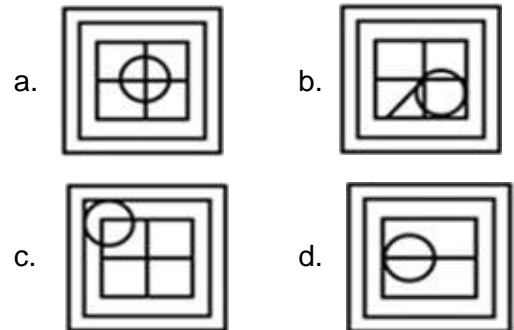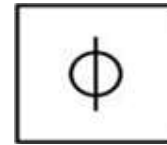
24. Study the following diagram carefully and answer the following question: How many girls are unemployed and uneducated?

25. Select the answer figure in which the question figure is embedded:

a.   b.

c.   d.

26. Select the answer figure in which the question figure is embedded:

a.   b.

c.   d.
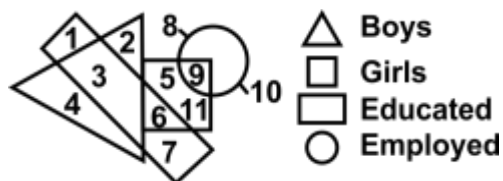
27. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
X _ C X X X _ X X _ C X

a. CXC   b. CCX
c. XCX   d. XXC

28. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
H A _ C _ A A C H A A _

a. ACH	b. CHH
c. HAC	d. AHC

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

a. b.

c. d.

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

a. b.

c. d.

31. If all the letters of the word "SIMPLIFICATION" are arranged in alphabetical order from left to right, then which of the following letters will be eighth from the left end of the new arrangement?

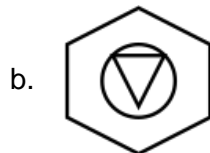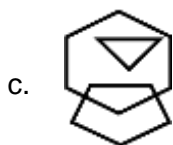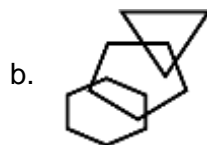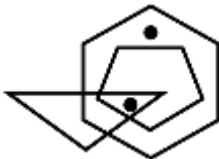| a. N	b. M
c. I	d. L

32. Select the odd letters from the given alternatives:

a. FMS	b. BIP
c. HOV	d. DKR

33. Arrange the following words in the same order as found in the dictionary:

1. Shower
2. Shadow
3. Shallow
4. Shout
5. Share

a. 23541	b. 32154
c. 31245	d. 23451

34. Answer the question based on the following arrangement:
R 4 P I J M Q 3 % T @ © U K 5 V 1 W $ Y 2 B E 6 # 9 D H 8 G * Z N

How many such numbers are there in the given arrangement each of which is immediately preceded by a consonant but not immediately followed by a letter?

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

35. Answer the question based on the following arrangement:

If every alternate element in the above sequence from left is dropped (starting with C) then which of the following characters will be third to the right of fifth character from the left?
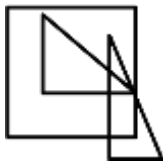
B C □ 4 x 6 Δ G $ M P ● 5 % R + ⊕ ÷ V I 7 S 9 X A Z

a. +	b. R
c. $	d. 5

36. How many triangles are there in the given figure?
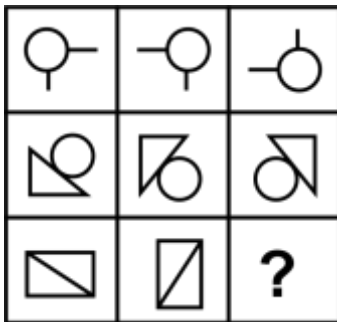
a. 4　　　　　　　　b. 5
c. 6　　　　　　　　d. 7

37. How many triangles are there in the given figure?

a. 6　　　　　　　　b. 5
c. 4　　　　　　　　d. 7

38. Select an appropriate figure from the given alternatives that would complete the figure matrix:

a. 　　　　b.

c. 　　　　d.

39. Select an appropriate figure from the given alternatives that would complete the figure matrix:
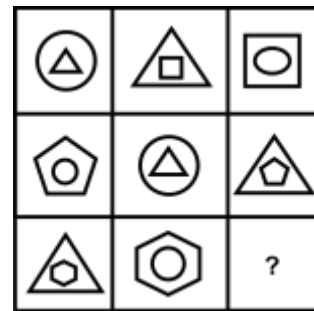
a. 　　　　b.

c. 　　　　d.

40. 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. 19　　　　　　　b. 13
c. 17　　　　　　　d. 27

Achievers' Section (Each Question is 2 Marks)

41. In the question given below, there is a statement followed by two conclusions numbered I and II. You have to assume everything in the statement to be true, then consider the two conclusions together and decide which of them logically follows beyond a reasonable doubt from the information given in the statement:

Statement- The Chief Minister emphasised the point that the Government will try its best for the development of farmers and rural poor.

Conclusions

I. The former Government had not tried seriously for the development of these people.

II. This Government will not try seriously for the development of the urban poor.

a. Only conclusion I follows
b. Only conclusion II follows
c. Either conclusion I or conclusion II follows
d. Neither conclusion I nor conclusion II follows

42. 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. The university authority has decided to conduct all terminal examinations in March/April every year to enable them to declare results in time.

B. There has been considerable delay in declaring results in the past due to shortage of teachers evaluating the answer sheets of the examination conducted by the university.

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

43. In the question given below there are four statements followed by two conclusions numbered I and II. You have to take the four given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions, logically follows from the four statements disregarding commonly known facts:

Statements
I. All jungles are trees.
II. All trees are roads.
III. All roads are houses.
IV. All houses are buildings.

Conclusions
I. All trees are houses.

II. Some buildings are roads.

a. Only Conclusion I follows
b. Only Conclusion II follows
c. Both Conclusion I and II follows
d. Neither Conclusion I nor II follows

44. Read the information given below carefully and answer the question.
Six students A, B, C, D, E and F are selected to represent their school in six games, cricket, hockey, badminton, tennis, judo and athletics but not necessarily in the same order.

- One of them studies in class 10th, two in class 11th and three in class 12th.
- A plays hockey but doesn't study in class 10th.
- D plays cricket and studies in class 12th.
- Students of class 11th do not play tennis and are also not athletes.
- E studies in class 11th.
- The student selected to represent the school in hockey doesn't study in class 12th.
- C plays judo and studies in class 10th.

Which of the following combinations of game and class is correct?

a. Judo, 12th
b. Cricket, 11th
c. Badminton, 12th
d. Athletics, 12th

45. Read the information given below carefully and answer the question.

1. P, Q, R, S, T and U are six members of a family, each of them engaged in a different profession - doctor, lawyer, teacher, engineer, nurse and manager.
2. Each of them remains at home on a different day of the week from Monday to Saturday.

3. The lawyer in the family remains at home on Thursday.
4. R remains at home on Tuesday.
5. P, a doctor, does not remain at home either on Saturday or Wednesday.
6. S is neither the doctor nor the teacher and remains at home on Friday.
7. Q is the engineer and T is the manager.

Who among them remains at home on the following day on which R stays at home?

a. Q
b. Q or T
c. S
d. Cannot be determined

46. Two squads A and B of soldiers, moving towards East and West respectively, received the following commands- Left turn, Left turn, Left turn, Right turn, Left turn. Which directions would the squads A and B face at the end?

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

47. Richard starts from point A and travels 4 km in East direction to reach point B, now he takes turn and travels 3 km in North direction to reach point C, now he turns towards West and travels another 4 km, finally he turns towards South and travels another 3 km to reach point E. Calculate the shortest distance between points A and E and in which direction is he from starting point.

a. 3 km, South-West
b. 4 km, South-West
c. 3 km, South-East
d. None of these

48. A word and number arrangement machine when given an input line of words and numbers, rearranges them following a particular rule in each step. The following is an illustration of input and rearrangement.

Input: 36 bread 8 same 92 shaving 82 seldom 54 den

Step I: 8 36 bread same 92 shaving 82 seldom 54 den
Step II: 8 shaving 36 bread same 92 82 seldom 54 den
Step III: 8 shaving 36 seldom bread same 92 82 54 den
Step IV: 8 shaving 36 seldom 54 bread same 92 82 den
Step V: 8 shaving 36 seldom 54 bread 82 same 92 den

Step V is the last step, find out in each of the rules followed in the above steps, find out in the following question the appropriate step for the given input.

Input: 24 against 16 ascending 80 best bin 64 candy 46

Which word/number would be at the seventh position from the right in Step VI?

a. 24   b. against
c. 80   d. candy

49. A word and number arrangement machine when given an input line of words and numbers rearranges them following a particular rule. The following is an illustration of input and rearrangement.

Input: 86 king 98 mouse duck 72 cat 48 hat 56 90 parrot

Step I : 48 86 king mouse duck 72 cat hat 56 90 parrot 98
Step II: 48 56 86 king mouse duck 72

cat hat parrot 90 98
Step III: 48 56 72 king mouse duck cat hat parrot 86 90 98
Step IV: 48 56 72 cat king mouse duck hat parrot 86 90 98
Step V: 48 56 72 cat duck king mouse hat parrot 86 90 98
Step VI 48 56 72 cat duck hat king mouse parrot 86 90 98

Step VI is the last step of the rearrangement. As per the rules followed in the above steps, find out in following question the appropriate steps for the given input.

Input: 66 juice roll 36 doll 80 love 44 baby 72 gone 40

How many steps would be required to complete the arrangement?

a. X
b. VIII
c. IX
d. VII

50. A word and number arrangement machine when given an input line of words and numbers rearranges them following a particular rule in each step. The following is an illustration of an input and its rearrangement:

Input: pages 28 empty 24 8 book hide 29 lost 23

Step I: 8 28 empty 24 book hide 29 lost 23 pages
Step II: 8 29 28 empty 24 book hide 23 lost pages
Step III: 8 29 24 28 empty book 23 hide lost pages
Step IV: 8 29 24 23 28 book empty hide lost pages

And Step IV is the last step of the above input. As per the rules followed in the above steps, find out in the following question the appropriate step for the given input.

Input: tears 11 emerge 54 18 again know 49 zebra 24 move 33 64 look

How many steps will be required to complete the arrangement of the above input?

a. Seven
b. Six
c. Eight
d. Five

Answer Key

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