STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING (S.C.E.R.T), PUNJAB, MOHALI

National Talent Search Examination – 2017

State Level Test – 2017
Class – X
MENTAL ABILITY TEST

Time: 3 Hours   **Max. Marks: 200**

Instructions for candidates:-	ਉਮੀਦਵਾਰਾਂ ਲਈ ਹਦਾਇਤਾਂ :
1. This exam is in two parts.	1. ਇਹ ਪ੍ਰੀਖਿਆ ਦੋ ਭਾਗਾਂ ਵਿੱਚ ਹੈ।
2. Part-I is related to Mental Ability Test.	2. ਪਹਿਲਾ ਭਾਗ ਮਾਨਸਿਕ ਯੋਗਤਾ ਨਾਲ ਸੰਬੰਧਤ ਹੈ।
3. Part-II relates to Scholastic Aptitude Test. It consists of nine subjects, details of which are given below:-	3. ਦੂਜਾ ਭਾਗ ਵਿਸ਼ਿਆਂ ਦੀ ਯੋਗਤਾ ਨਾਲ ਸੰਬੰਧਤ ਹੈ। ਇਸ ਵਿੱਚ ਨੌ ਵਿਸ਼ੇ ਹਨ, ਜਿਨ੍ਹਾਂ ਦਾ ਵੇਰਵਾ ਹੇਠ ਦਿੱਤਾ ਹੈ-

i) Physics	ii) Chemistry
iii) Biology	iv) Mathematics
v) History	vi) Geography
vii) Civics	viii) Economics
ix) English	

i) ਭੌਤਿਕ ਵਿਗਿਆਨ	ii) ਰਸਾਇਣ ਵਿਗਿਆਨ
iii) ਜੀਵ ਵਿਗਿਆਨ	iv) ਗਣਿਤ
v) ਇਤਿਹਾਸ	vi) ਭੂਗੋਲ
vii) ਨਾਗਰਿਕ ਸ਼ਾਸਤਰ	viii) ਅਰਥ ਸ਼ਾਸਤਰ
ix) ਅੰਗ੍ਰੇਜ਼ੀ	

4. Each question carries one mark. All questions are compulsory.	4. ਹਰ ਇੱਕ ਪ੍ਰਸ਼ਨ ਦਾ ਇੱਕ ਅੰਗ ਹੈ। ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਜ਼ਰੂਰੀ ਹਨ।
5. You have been provided with a answer sheet (OMR) for this question paper. Darken the correct option of each question in the answer sheet (OMR) with black/blue ink.	5. ਤੁਹਾਨੂੰ ਇਸ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਲਈ ਉੱਤਰ ਸ਼ੀਟ ਦਿੱਤੀ ਗਈ ਹੈ। ਉੱਤਰ ਸ਼ੀਟ (ਓ ਐਮ ਆਰ) ਵਿੱਚ ਪ੍ਰਸ਼ਨ ਦੇ ਸਹੀ ਉੱਤਰ ਨੂੰ ਕਾਲੀ/ਨੀਲੀ ਸਿਆਹੀ ਨਾਲ ਭਰ ਕੇ ਦਰਸਾਓ।
6. Rough work may be done on the blank space provided.	6. ਕੱਚਾ ਕੰਮ ਦਿੱਤੀ ਗਈ ਖਾਲੀ ਥਾਂ ਤੇ ਕਰਨਾ ਹੈ।
7. There is no negative marking in this question paper.	7. ਇਸ ਪ੍ਰਸ਼ਨ ਪੱਤਰ ਵਿੱਚ ਰਿਣਾਤਮਕ (ਨੈਗੇਟਿਵ) ਮਾਰਕਿੰਗ ਨਹੀਂ ਹੈ।
8. Do not use white fluid on OMR Answer Sheet.	8. ਉੱਤਰ ਸ਼ੀਟ (ਓ ਐਮ ਆਰ) ਉੱਪਰ ਵਾਸੀਟ ਫਲਿਊਡ ਦੀ ਵਰਤੋਂ ਨਾ ਕੀਤੀ ਜਾਵੇ।

Mental Ability

Direction Question (1 – 4) There is a number series following a pattern one place is left blank. Find the answer among the options.

1. 87, 56, 30, ……………….
    (A) 26   (B) 20
    (C) 12   (D) 0

2. 4, 5, 12, 39, 160, …………….
    (A) 805   (B) 790
    (C) 695   (D) 225

3. 2, 12, 36, 80, 150, ……………….
    (A) 210   (B) 258
    (C) 252   (D) 194

4. 124, 139, 127, 142, 130, 145, ………………
    (A) 127   (B) 132
    (C) 133   (D) 149

Direction Questions (5 – 6) Find the missing term in place of question mark.

5.

38	22	69
34	23	27
28	14	?

    (A) 46   (B) 29
    (C) 23   (D) 99

6.
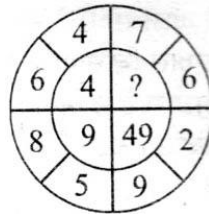
    (A) 121   (B) 64
    (C) 3   (D) 1

7. In a certain language 'NAME' is written as 'OYPA' then how will 'TEAM' be coded in that language?
    (A) UCDF   (B) UCDH
    (C) UCDN   (D) UCDI

8. If MINERAL is written as QRSTUVW and SOUND is written as ABCSD, the how will READER be written in same code?
    (A) QDZCDQ   (B) SBFEFS
    (C) UTVDTU   (D) TUDVUT

9. On 26 January, 1947 is SUNDAY, then which day on 2 September, 1947?
    (A) MONDAY   (B) TUESDAY
    (C) WEDNESDAY   (D) SUNDAY

10. What will be the angle between the minute hand and hour hand of a clock at 7:35?

(A) $22\frac{1}{2}^{\circ}$ (B) $17\frac{1}{2}^{\circ}$

(C) $12\frac{1}{2}^{\circ}$ (D) 0°

11. A is son of C, C and B are sisters, D is the mother of B, E is the son of D, which one of the following is correct?

(A) E is the maternal uncle of A   (B) B is the grandfather of A

(C) C and E are sisters   (D) E and A are brothers

12. In a row of children Teena is 5th from the left & Meena is 6th from the right. If they interchange their places then Teena becomes 13th from the left. Now what place will be occupied by Meena from the right.

(A) 4   (B) 14

(C) 15   (D) 18

Direction Question (13 –14): Study the letter series and answer the following questions.

13. ………..bca………..cca………….ca……….b……….c

(A) aaaaa   (B) aabaa

(C) bbabb   (D) bbbab

14. ………..cb………..ca………….bacb……….ca……….bac…………d

(A) bddddb   (B) addddb

(C) bbbddd   (D) addbbb

15. If a man facing east rotates in clockwise direction 45° & then, anti clockwise 270° then clockwise 180° which direction is he facing now?

(A) South – East   (B) West

(C) North – East   (D) South

Direction Question (16 –17) Question six faces of a cube are painted in such a way that no two adjacent faces are of same colour. The three colours used are Red, Blue & Green. The cube is then cut into 32 smaller and 4 big cubes in such a way that big cube has no red face. Answer the following Questions.

16. How many cubes are coloured on three faces?

(A) 0   (B) 8

(C) 16   (D) 32

17. How many cubes have exactly two faces painted?

(A) 16   (B) 20

(C) 32   (D) 36

Direction (18 – 19) Questions match the numbers in Column I with the Rules in Column II.

	Column I		Column II
(A)	17	(P)	$2x^3 + 3$
(B)	18	(Q)	$2x^2 - 1$
(C)	57	(R)	$x^2 + 2x$
(D)	28	(S)	$x^2 - 3x$
(E)	15	(T)	$3x^2 + 1$

18. Which rule the number 28 follows?
(A) $2x^2 - 1$ (B) $3x^2 + 1$
(C) $x^2 - 3x$ (D) $x^2 + 2x$

19. Which number follows the rule $2x^3 + 3$?
(A) 15   (B) 17
(C) 18   (D) 57

20. Which of the following words cannot be made from the word "COMMUNICATION".
(A) UNION   (B) ACTION
(C) MUSIC   (D) CAUTION

21. Arrange the following words according to dictionary arrangement.
(a) WOUND   (b) WRITER
(c) WHITER   (d) WORST
(e) WORKED
(A) caedb   (B) adceb
(C) dcbae   (D) cedab

22. Select the combination of numbers so that the letters arranged accordingly will form a meaningful word.

J	C	O	P	T	E	R
1	2	3	4	5	6	7

(A) 2645137   (B) 1345672
(C) 7645132   (D) 4731625

Six friends A, B, C, D, E, F are sitting in a closed circle facing centre. Direction (23 – 24) Questions.
E is to the Left of D
C is between A and B
F is between A and E

23. Who is to the Left of B?
(A) A   (B) C
(C) D   (D) E

24. Who is the right of C?
(A) A   (B) B
(C) E   (D) F

25. A man is performing yoga with his head down and legs up. His face is towards the west. In which direction will his left hand be?
(A) North   (B) South
(C) East   (D) West

Direction (26 – 27) are based upon the sum of addition, Each letter has unique value and for unique value there is unique letter? Given $E = 4$

26. Find the value of O?
(A) 3   (B) 1
(C) 0   (D) 2

27. Find the value of S?
(A) 8   (B) 6
(C) 4   (D) 2

28. A printer numbers the pages of a book starting with 1 and uses 3193 digits in all. How many pages does the book have?

(A) 1074   (B) 1075
(C) 1076   (D) 1077

Direction (29 – 30) Questions. A carpenter has the five wooden articles A, B, C, D, E having different weight.

(A) A weights twice as B
(B) B weights four & half time as much as C
(C) C weights half as much as D
(D) D weights half as much as E
(E) E weights less than A but more than C

29. Which of the following is lightest in weight?
(A) D   (B) C
(C) B   (D) A

30. Which of the following article is heaviest in weight?
(A) E   (B) D
(C) A   (D) C

31. Find odd one out
(A) SEPTEMBER   (B) JULY
(C) MAY   (D) APRIL

32. Determine the Relationship.
CLOSE: DNRWJ:: OPEN:
(A) RZWR   (B) RPJB
(C) PRHR   (D) PRJQ

33. TEACHER, COLLEGE, STUDENT, which figure represented it?

(A)   (B)   (C)   (D)
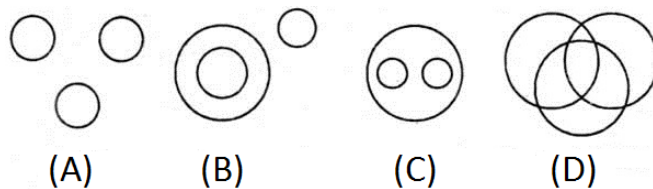
34. If 'green' is called 'red', 'red' is called 'blue', 'blue' is called 'white', 'white' is called 'yellow', 'yellow' is called 'violet' then what is the colour of grass.
(A) Green   (B) Red
(C) Yellow   (D) Violet

35. In a certain code language "Sue Re NIK" means "She is brave". "Pi sor Re NIK" means "She is always smiling" and "Sor Re Zhi" means "is always cheerful". What is the code used for word "smiling"?
(A) Sor   (B) NIK
(C) Re   (D) Pi

36. In the following sequence of Instructions, 1 stands for RUN, 2 stands for STOP, 3 stands for GO, 4 stands for SIT and 5 stands for WAIT, If the sequence were to continue, which instruction with come next?
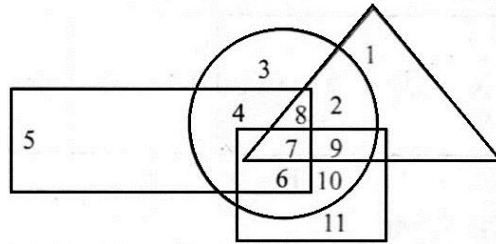
4 4 5 4 3 4 5 3 1 4 5 3 1 2 4 5 4 5 3 4 5 3

(A) Wait   (B) Sit
(C) Run   (D) Stop

In the following figure, rectangle, square, circle and triangle represent the regions of wheat, gram, maize and rice cultivations, respectively. Give the answer.
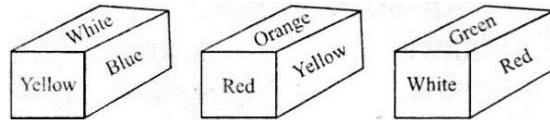
37. Which area is cultivated by rice and maize and nothing else?
(A) 9   (B) 8
(C) 7   (D) 2

Observe the colours and answer the following

(B) 138

(C) 140

(D) 142

38. Which coloured surface is opposite to yellow colour.
(A) Green   (B) Orange
(C) Red   (D) White

39. How many cubes are there in the given figures?
(A) 132
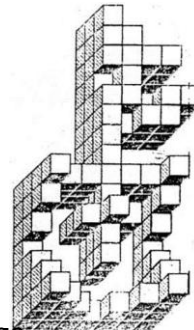
Direction Question (40). Given four figures three figures are similar in acertain manner. Choose the different one. (Odd one out)

40.
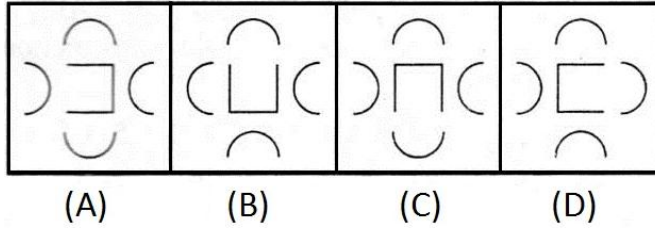
(A)   (B)   (C)   (D)

Direction Question (41). The following question consists of four problem fig. 1234 and four answer figures Marked (A), (B), (C), (D) select the gif. From amongst the answer figures which will continue the serial.
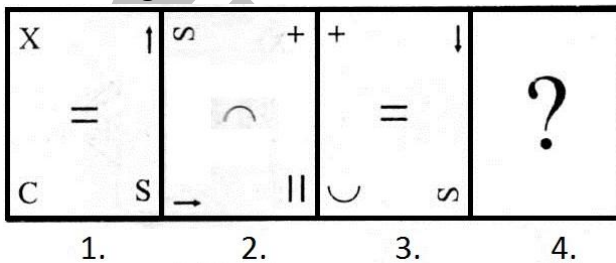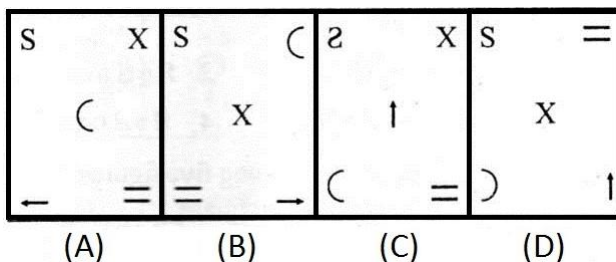
41.   **Problem Figure**

X△↑O?	? XO△↑	↑?△XO	O↑X?△
1.	2.	3.	4.

Answer Figure

△?X↑O	△O↑X?	↑X?△O	△O?↑X
(A)	(B)	(C)	(D)
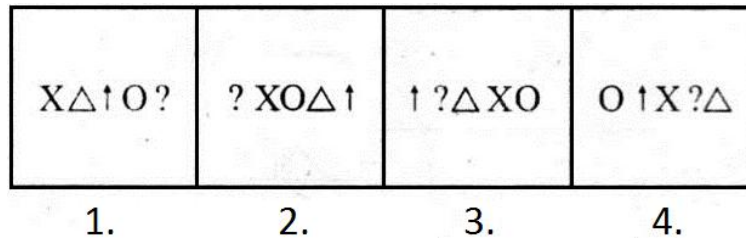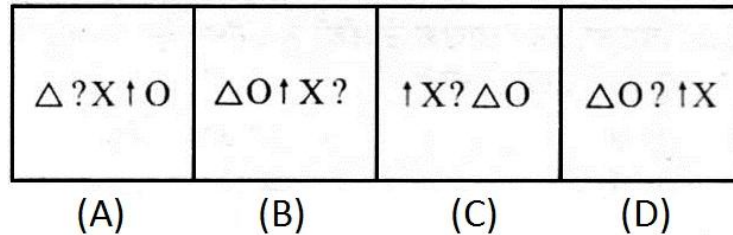
42.   Fig. A and B are related in some way. According to same relationship among C and D. Choose the correct alternate.

Problem Figure

1.   2.   3.   4.

Answer Figure

(A)   (B)   (C)   (D)

43. What is the minimum number of different colours required to paint the given figure such that no. two adjacent regions have the same colour?
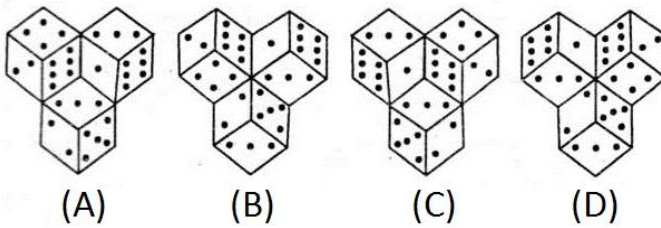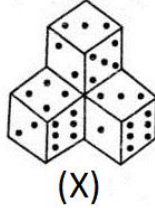(A) 5

(B) 4

(C) 3

(D) 2
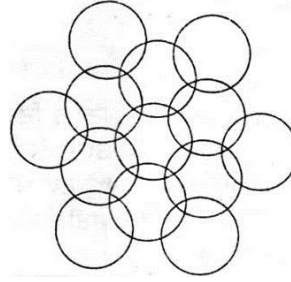
44. How many triangles and parallelograms are there in the following figure?
(A) 21, 17

(B) 19, 13

(C) 21, 15

(D) 19, 17
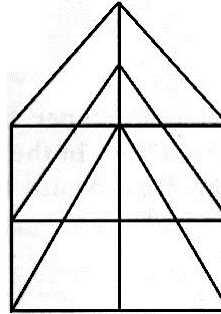
45. Find the water image of figure 'X'.

(X)
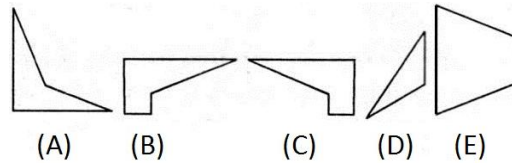
(A)   (B)   (C)   (D)

46. Find the mirror image of the following.

NTSEscoLeR
(A) ЯэЈoɔƎƧTИ
(B) ЯэЈoɔгƐƧTИ
(C) ЯэLoɔsESNT
(D) ЯэЈoɔгƎƧTИ

Courtesy : NTSE

47. Which three figures among five figures A, B, C, D & E will forms a complete square.

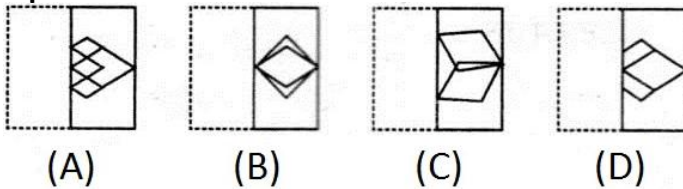(A) (B) (C) (D) (E)

(A) ABC   (B) BCD
(C) CDE   (D) BCE

48. A square transparent sheet with a pattern is given. Figure out from amongst the four alternative as to how the pattern would appear when the transparent sheet is folded at the dotted line.
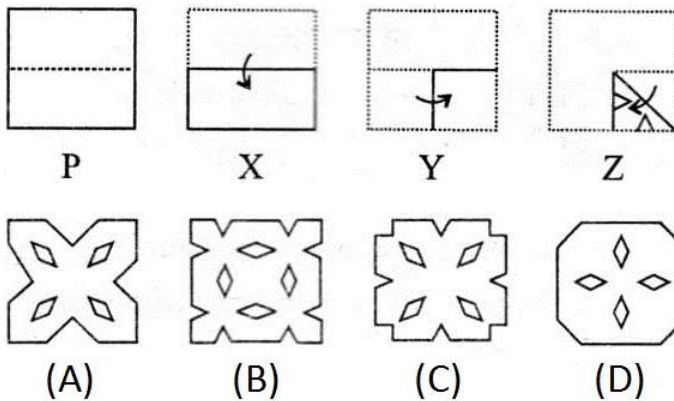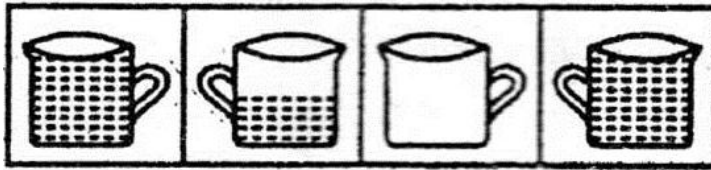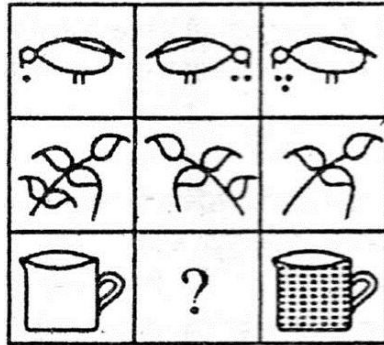
Transparent Sheet.

Response Sheet.

(A)   (B)   (C)   (D)

Direction Question (49). Paper has been folded as shown with the dotted lines in the given figure. PXYZ & paper has been cut. How would the paper look like when unfolded.

49.

P   X   Y   Z

(A)   (B)   (C)   (D)

Courtesy : NTSE

50.   Select among four alternatives which complete the given Matrix.