# MENTAL ABILITY TEST - 2012

**TIME: 90 MINUTES**                                            **MAX MARKS: 90**

**Instruction of the Candidates**

Read the following instructions carefully before you answer the questions.

1. Answers are to be given on a SEPARATE ANSWER SHEET

2. Please write your twelve digits Roll Number very clearly on the Test-booklet and Answer Sheet as given in your admission card.

3. Please note and follow the instructions, given on the answer sheet for writing the answers.

4. Darken the circle with pen for answering the question in the appropriate space against the number corresponding to the questions you are answering.

5. There are 90 questions in this test.

6. Since all questions are compulsory, do not try to read the whole question paper before beginning to answer it.

7. If you do not know the answer to any question, do not spend much time on it and pass on to the next one. If time permits, you can come back to the questions, which you have left in the first instance and try them again.

8. Since the time allotted for this question paper is very limited you should make the best use of it by not spending too much time on any one question.

9. Rough work can be done anywhere in the Test booklet but not on the Answer sheet/loose paper.

10.    Every correct answer will be awarded one mark.

**Directions Q (1-6):** In the following questions, four items (numbers/ number pairs/letter groups) are given. Three of them are alike in a certain way and one is different. Find the odd one out from the alternatives.

1. 1.   2518          2.   2709
   3.   3249          4.   8314

   **Sol: 4**

2. 1.   242          2.   80
   3.   25          4.   728

   **Sol: 3**

3. 1.   7, 147          2.   6, 108
   3.   5, 75          4.   8,128

   **Sol: 4**

4. 1.   EBD          2.   IFH
   3.   QMO          4.   YVX

   **Sol: 3**

5. 1.   BDGK          2.   JLOS
   3.   HJMQ     4.   MORU

   **Sol: 4**

6. 1.   BCYZ     2.   EFVW
   3.   DEUV     4.   ABZA

   **Sol: 3**

**Directions Q (7—10):** In the following Questions, there is a relationship between two figures on the left of the sign (::). The same relationship exists between the figures to the right of the sign (::) of which one is missing. Find the missing one from the alternatives.

7. 23: 13:: 54:?
   1.  45          2.   39
   3.  40          4.   41

   **Sol: 3**

**8.** 49 : 21 :: 169 : ?

1. 26          2.     39

3. 42          4.     13

**Sol: 2**

**9.** 25 : 37 :: 49 : ?

1.  41          2. 56

3.  60          4. 65

**Sol: 4**

**10.**    CEGI : WUSQ :: DFHJ : ?

1.   WUSQ        2. VTRP

3.   XVTR        4. USQO

**Sol:2**

**Directions Q (11 - 15):** In the following questions, numbers are written in a sequence. Find the missing number, to replace the question mark, from the given alternatives.

**11.**    3, 12, 27, 48, 75, 108,?

1. 147          2.162

3. 183          4. 192

**Sol: 1**

**12.**    1, 4, 2, 8, 6, 24, 22, 88, ?

1.  90          2.  176

3.  352         4.  86

**Sol: 4**

**13.**    KM1, IP3, GS6, EV11,?

1.  BX18        2. BY16

3.  CY18        4. CZ18

**Sol: 3**

**14.**    LXF, MTJ, NPN, QLR, ?

1.  PHV         2.PIU

3.  PKX         4.PJW

**Sol: 1**

**15.** 23, 48, 99, 203, 413,?

1. 826      2.     837

3. 835      4.     833

**Sol: 2**

**Directions Q (16 - 18):** The following questions are based on letter sequence. In each sequence, some letters are missing. Find the correct alternative in each question to fill the blanks.

**16.** c b _ _ b c c b a _ b _

1.     a a a c      2.     b b b c

3.     a a a b      4.     a a b c

**Sol: 1**

**17.** x _ y y z _ x x y _ z z x _ y y z z

1. y x z y      2.     x z y x

3. x y y x      4.     z x y x

**Sol: 2**

**18.** r s _ r _ s _ _ r _ s s r

1. r s r s      2.     r r s r

3. s r r s      4.     s r s r

**Sol: 4**

**19.** If the word TRIPPLE is coded as DMOQHSS, how the word VICTORY will be coded?

1.     UJBUNSX      2.     WHDSPQZ

3.     XSNUBJU      4.     ZXPSDHW

**Sol: 3**

**20.** If the word GRANDEUR is coded as NARGRUED, which word will be coded as SERPEVRE?

1. PERSERVE      2.     PRESEVER

3. PERSEVER      4.     PRESERVE

**Sol: 4**

**21.** If banana is called apple, apple is called grapes, grapes are called mango, mango is called coconut and coconut is called guava, which is the king of fruits?

1.      Mango        2.      Guava

3.      Coconut      4.      Apple

**Sol: 3**

22.     If train is called bus, bus is called tractor, tractor is called car, car is called scooter scooter is called bicycle and bicycle is called aeroplane then which is used to plough a field?

1.      Train        2.      Bus

3.      Car          4.      Tractor

**Sol: 3**

23.     In a certain code language, the sentences written in Column I are coded as sentences written in Column II, but the sequence of words is different. Decode the sentences and find which word in coded language mean sweet?

| Column I | Column II |
| --- | --- |
| drink fruit juice | tee see pee |
| juice is sweet | see kee lee |
| he is intelligent | lee ree mee |

1.  pee           2.      see

3.  tee           4.      Kee

**Sol: 4**

24.     Pointing to a man in a photograph, Reena said, "His brother's father is the only son of my grandfather." How is Reena related to the man in photograph?

1.      Mother       2.      Grand Daughter

3.      Sister       4.      Daughter

**Sol: 3**

25.     A monkey climbs 30 feet at the beginning of each hour and rests for a while when he slips back 20 feet before he again starts climbing I the beginning of the next hour. If he begins his ascent at 8.00 am, at what time will he first touch a flag at 120 feet from the ground?

1.      4 pm         2.      5 pm

3.      6pm          4.      3pm

**Sol: 3**

**Directions Q (26 - 30):** Study the information given below and answer the questions that follow:

(i) P, Q, R, S, T and U are six students procuring their Master's degree in six different subjects - English, History, Chemistry, Physics, Hindi and Mathematics.

(ii) Two of them stay in a hostel, two stay as Paying Guest (PG) and the remaining two stay at home.

(iii) R does not stay as PG and studies Chemistry.

(iv) The students studying Hindi and History do not stay as Paying Guest (PG)

(v) T studies Mathematics and S studies Physics.

(vi)   U and S stay in a hostel. T stays as Paying Guest (PG) and Q stays at home.

**26.**   Who studies English?

1. R                  2. P                  3. S                  4. T

**Sol: 2**

**27.**   Which of the following combinations of subject and place of stay is not correct?

1.  English – Hostel

2.  Chemistry  - Home

3.  Mathematics - Paying Guest

4.  Physics – Hostel

**Sol: 1**

**28.**   Which of the following pairs of students stay one each at hostel and at home?

1.        QR              2.        SR

3.        PQ              4.        PS

**Sol: 2**

**29.**   Which subject does Q study?

1.   History                  2.        Hindi

3. History or Hind          4.        None of these

**Sol: 3**

**30.**   Which of the following pairs of students stay at home?

1.        PQ              2.        QR

3.        RS              4.        ST

**Sol: 2**

**31.** A + B means A is Father of B;

A - B means A is Wife of B;

A x B means A is brother of B;

and   A ÷ B means A is Daughter of B;

If P + R ÷ Q, Which of the following is true?

1. P is the Brother of Q

2. P is the Son of Q

3. P is the Husband of Q

4. P is the father of Q

**Sol: 3**

**Directions Q (32 - 33):** Study the information given below and answer the questions that follow:

On a playground, Dinesh, Kunal, Nitin, Atul and Prashant are standing as described below facing the North.

(i)    Kunal is 40 metre to the right of Atul.

(ii)    Dinesh is 60 metre to the South of Kunal.

(iii)    Nitin is 25 metre to the West of Atul.

(iv)    Prashant is 90 metre to the North of Dinesh.

**32.** Who is to the North-East of the person who is to the left of Kunal?

1.    Dinesh                    2.    Nitin

3.    Atul                          4.    Prashant

**Sol: 4**

**33.** If a boy walks from Nitin, meets Atul followed by Kunal, Dinesh and then Prashant, how many meters has he walked if he has travelled the straight distance all through?

1. 155m                    2.    185m

3. 215m                    4.    245m

**Sol: 3**

**34.** In a row of girls, Kashish is fifth from the left and Mona is sixth from the right. When they interchange their places among themselves, Kashish becomes thirteenth from the left. Then, what will be Mona's position from the right?

1. Fourth      2. Eighth

3. Fourteenth      4. Fifteenth

**Sol: 3**

**35.** Reaching the1 place of meeting 15 minutes before 8.30 am, Anuj found himself half an hour earlier than the man who was 40 minutes late. What was the scheduled time of meeting?

1. 8.00 am      2. 8.05 am

3. 8.15 am      4. 8.10 am

**Sol: 2**

**Directions (36 - 38):** Find the missing character / number in each of the following questions:

**36.**

| 2 | 4 | 0 |
|---|---|---|
| 1 | 2 | 4 |
| 3 | 1 | 3 |
| 36 | ? | 91 |

1. 25      2. 48

3. 59      4. 73

**Sol: 2**

**37.**



1. 2      2. 3

3. 4      4. 5

**Sol: 3**

**38.**

```
    5                   3                   6
 2     4            2       3           4       7
   (584)              (694)               (?)
 2     2            3       2           1       2
    1                   2                   1
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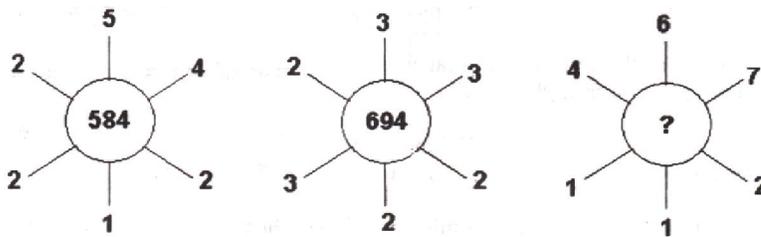
1. 937       2.    824

3. 769       4.    678

**Sol: 4**

**Directions Q (39-41):** In the following questions, which of the interchange of sign/ signs would make the equations correct?

**39.**    $5 + 3 \times 8 - 12 \div 4 = 3$

1. + & -       2.    - & ÷

3. X & +       4.    + & ÷

**Sol: 2**

**40.**    $12 \div 2 - 6 \times + 8 = 16$

1. ÷ & +       2.    - & +

3. X & +       4.    ÷ & X

**Sol: 2**

**41.**    If '+' stands for multiplication, '−' stands for division, 'X' stands for subtraction and '÷' stands for addition then

$$\frac{(36 \times 4) - 8 \times 4}{4 + 8 \times 2 + 16 \div 1}$$

1. 0       2.    8

3. 12       4.    16

**Sol: 1**

**42.**    How many even numbers are there in the following sequence of numbers which are immediately preceded by an odd number but immediately followed by an even number?

5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 2 4 3 4 9 6

1. One                            2.      Three
3. Four                           4.      Two

**Sol: 2**

43.     In one of the following sequences, the number of letters skipped between its adjacent letters increases by one. Identity the sequence.

1.      KMPTY                    2.      IJKOT
3.       HJMQT                   4 .     DFIJK

**Sol: 1**

44.     Arrange the given words in the sequence in which they occur in the English dictionary and then choose the correct sequence.

(a)     Select                    (b)     Seldom
(c)     Send                     (d)     Selfish
(e)     Seller

1.      a,b,d,e,c                  2,      b,a,e,d,c
1       b,a,d,e,c                  4,      b,e,d,a,c

**Sol: 3**

**Directions Q (45 - 48):** In each of the following questions, patterns of circles are used to represent the relationship among different items. Each circle represents an item. Which of the patterns represent the relationship among the items given in the following question?
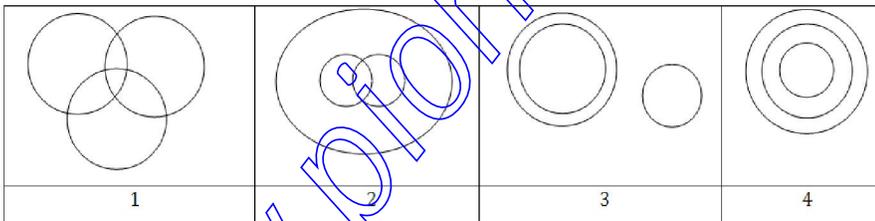


45.     Human beings, Teachers, Educated

**Sol: 2**

46.     Antisocial Elements, Pickpockets, Black mailers

**Sol: 2**

47.     Boys, Students, flayers

**Sol: 1**

**48.** Instrumentalists, Musicians, Violinists

Sol: 4

**Directions (49- 52):** Study the information given below and answer the questions that follow:

Six lectures A, B, C, D, E and F are to t> organized in a span of seven days - Sunday to Saturday, only one lecture on each day in accordance with the following :

(i)     A should not be organized on Thursday,

(ii)    C should be organized immediately after F.

(iii)   There should be a gap of two days between E and D.

(iv)    One day there will be no lecture (Friday is not that day), just before that day D will be organized.

(v)     3 should be organized on Tuesday and should not be followed by D.

**49.** On which day there is no lecture?

1.     Monday              2.     Friday

3.     Sunday              4.     None of these

Sol: 1

**50.** How many Lectures are organized between C and D?

1. None                  2.     Four

3. Two                   4.     Three

Sol: 4

**51.** Which day will the lecture F be organized?

1.     Thursday            2.     Friday

3.     Saturday            4.     Sunday

Sol: 1

**52.** Which of the following is the last lecture in the series?

1.     A                   2.     B

3.     C                   4.     D

Sol: 1

**Directions (53- 55):** In each of the following questions,: figure X represents a square transparent sheet with a design on it. Examine the figures given in the alternatives 1, 2, 3 & 4 and find the one which represents the design that would appear when the sheet is folded at the dotted line.

**53.**



Sol: 2

**54.**



Sol: 3

**55.**
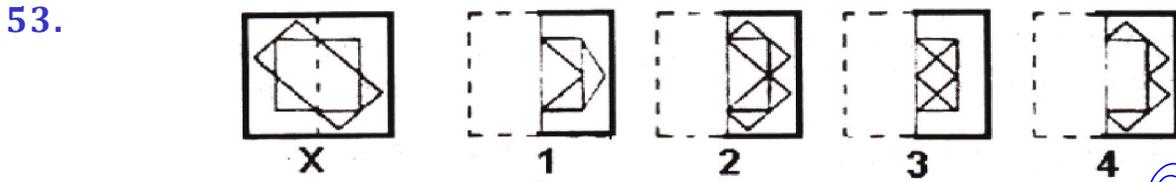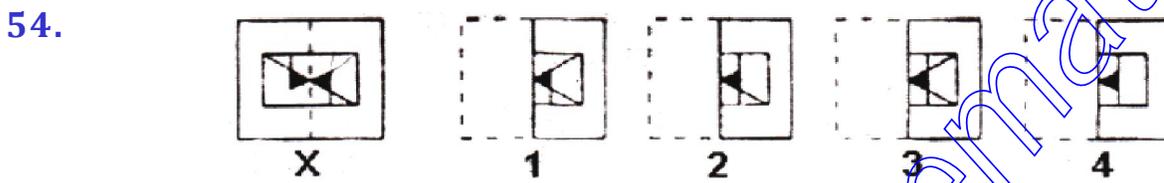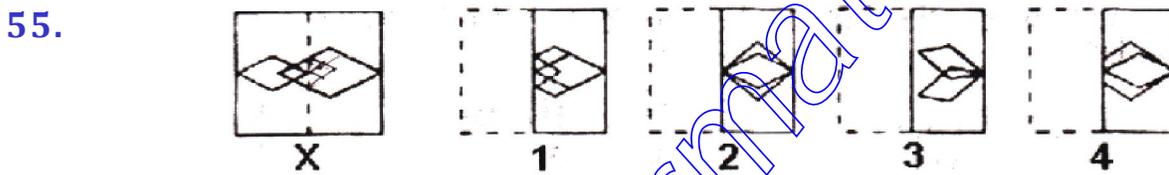


Sol: 1

**Directions Q (56-62):** The five figures marked as A, B, C & D in the following questions follow a series. Select a figure from the given alternatives marked as 1, 2, 3 & 4 which will continue the same series.

**56.**
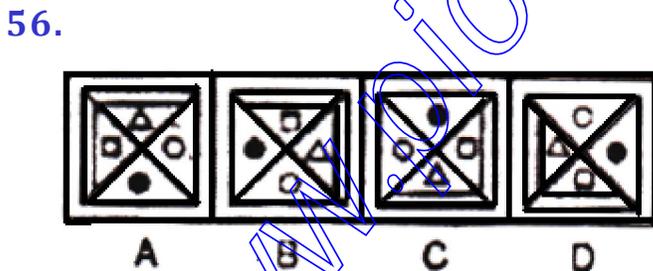


Sol: 4

**57.**
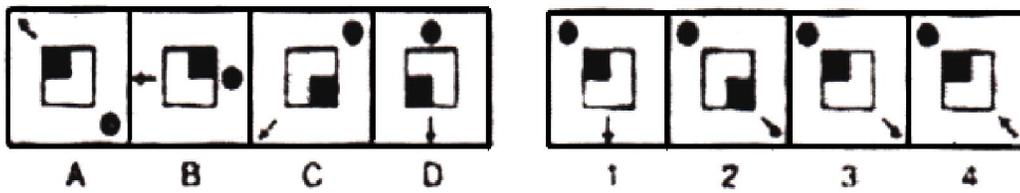
**Sol: 3**

**58.**
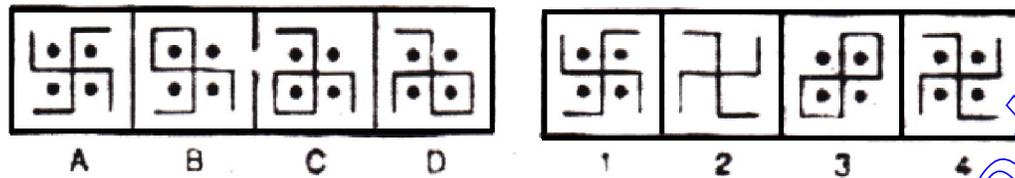


**Sol: 4**

**59.**



**Sol: 2**

**60.**



**Sol: 4**

**61.**
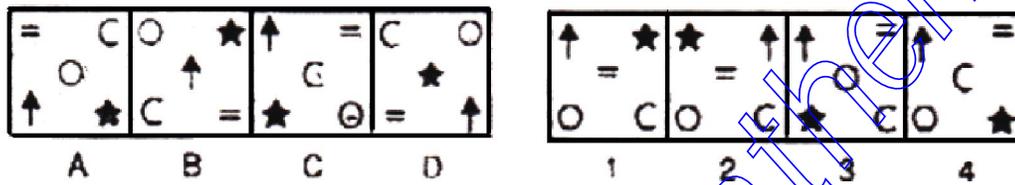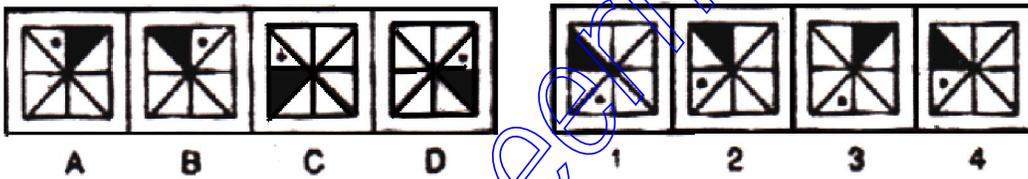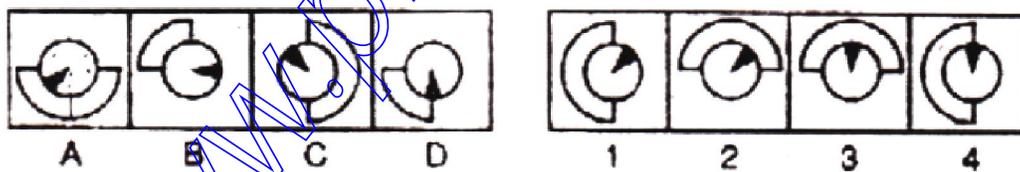


**Sol: 2**

**62.**
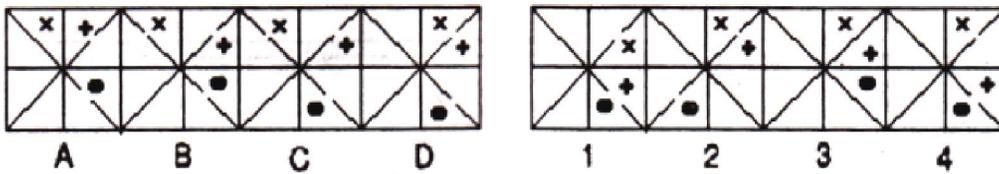


<span style="color:red">**Sol: 3**</span>

<span style="color:purple">**Directions Q (63- 66):**</span> In each of the following questions, some figures are given in a sequence. Select a suitable figure from the alternatives marked as 1, 2, 3 & 4 which will come in place of the question mark to continue the sequence.

**63.**
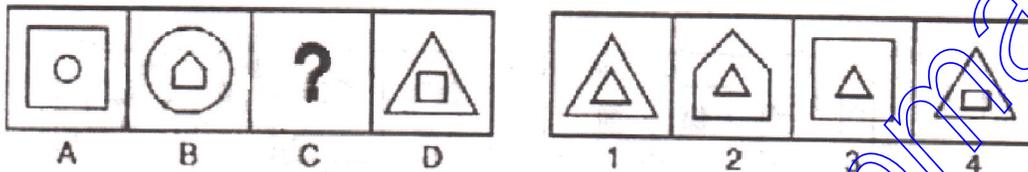


<span style="color:red">**Sol: 2**</span>

**64.**
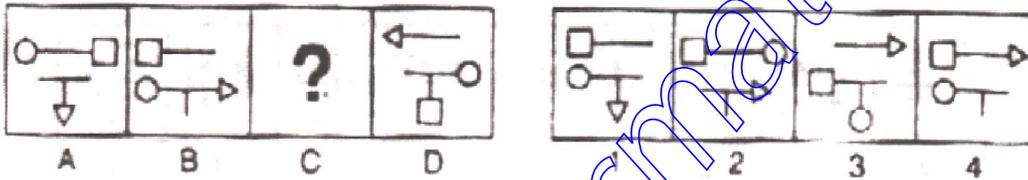


<span style="color:red">**Sol: 3**</span>

**65.**
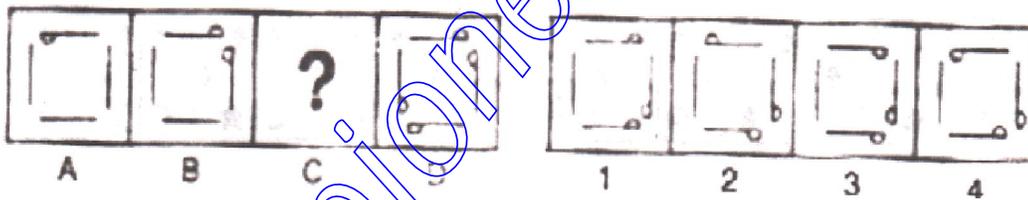


<span style="color:red">**Sol: 4**</span>

**66.**
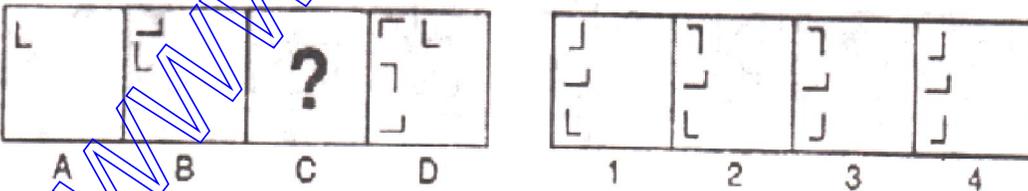


<span style="color:red">**Sol: 2**</span>

**Directions Q (67- 69):** In each of the following questions, there is a some relationship between the figures A & B. Establish a similar relationship between C & D by choosing a suitable figure from the answer set 1, 2, 3 & 4 for the missing figure.

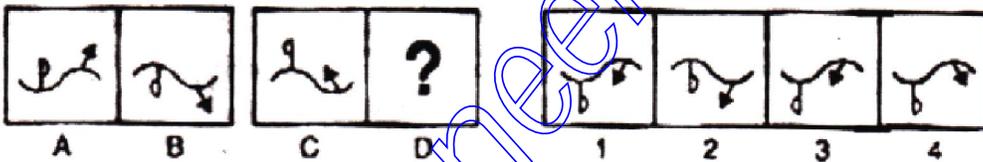**67.**
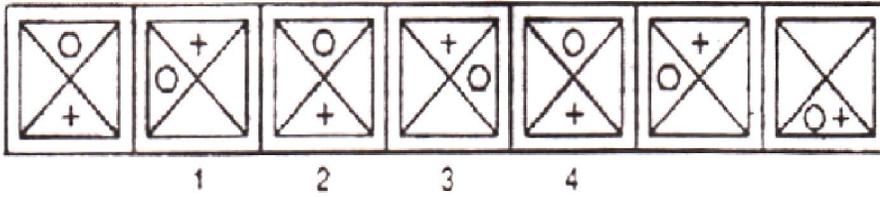


**Sol: 2**

**68.**
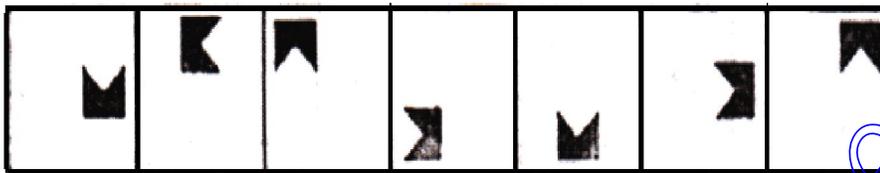


**Sol: 2**

**69.**
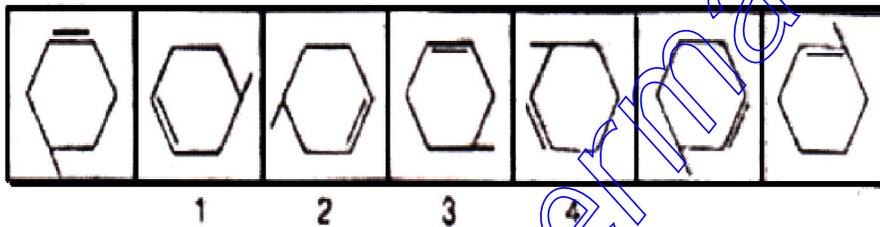


**Sol: 1**

**Directions Q (70 – 74) :** In each of the following questions, there is a some relationship between the figures A & B. Establish a similar relationship between C & D by choosing a suitable figure from the answer set 1, 2, 3 & 4 for the missing figure.

**70.**
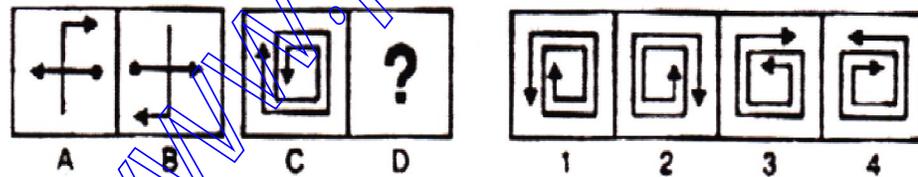


**Sol: 2**

**71.**
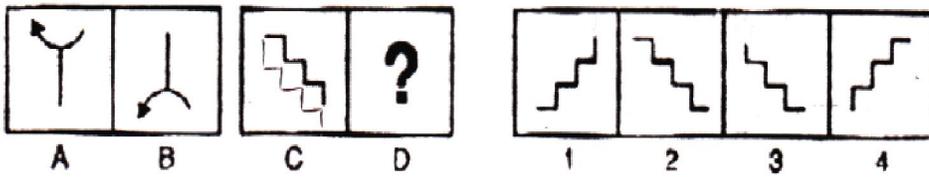
**Sol: 1**

**72.**
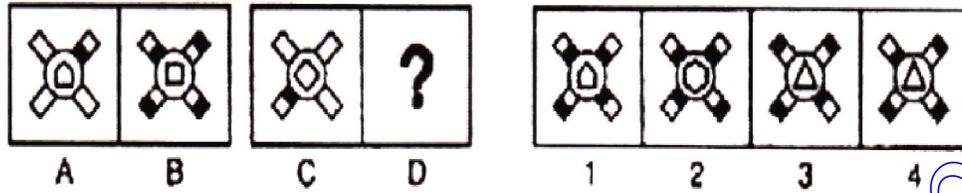


**Sol: 3**

**73.**
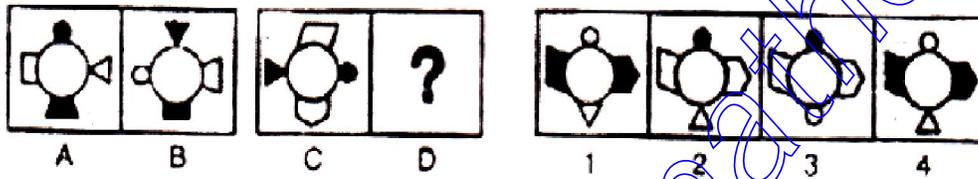


**Sol: 4**

**74.**



**Sol: 1**

**Directions Q (75- 76):** In each of the following questions, four pairs of figures are given In three of them; the first figure is related to the second figure in the same manner. Find the odd pair out which is different from others.
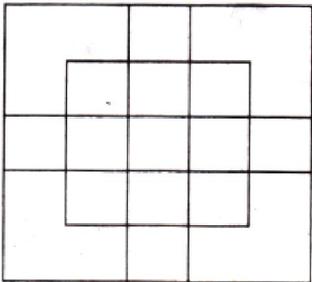
**75.**
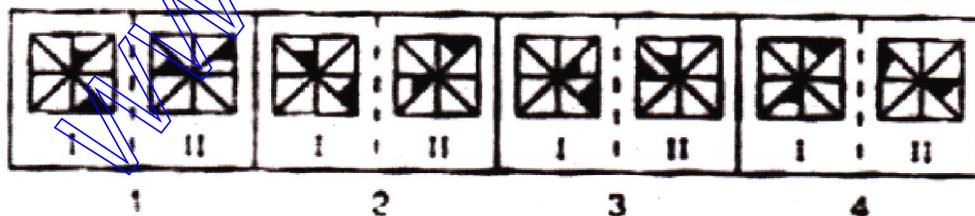


**Sol: 3**

**76.**
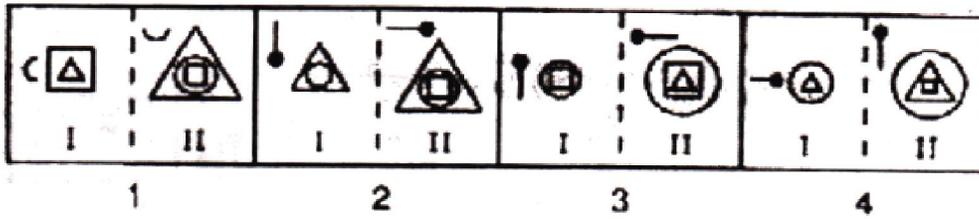


**Sol: 1**

**Directions Q (77- 78):** In each of the following I questions, a problem figure is given. Study the figure carefully and then answer the questions given under it.

**77.** How many squares are there?



| | |
|---|---|
| 1.  18 | 2.    19 |
| 3.  25 | 4.    27 |

**Sol: 4**

**78.** How many squares are there?
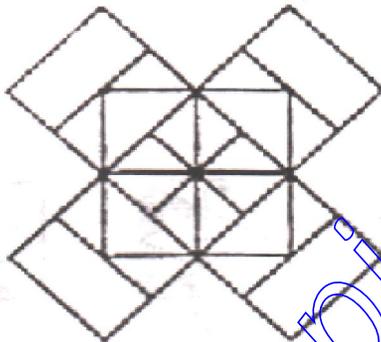


| | |
|---|---|
| 1. 22 | 2. 20 |
| 3. 18 | 4. 16 |

**Sol: 3**

**Directions Q (79- 81):** In each of the following questions, there is a figure X given to the left of vertical lines. Examine the figures given in the alternatives 1, 2, 3 & 4 and find the one which is choose the exact mirror image of the figure X.
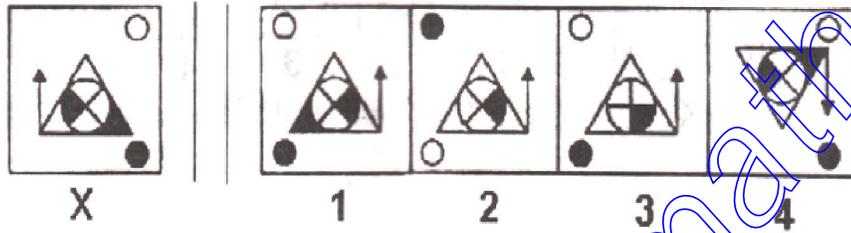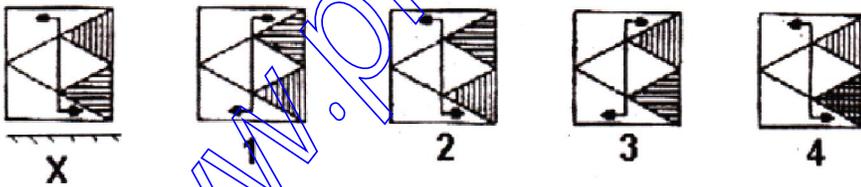
**79.**
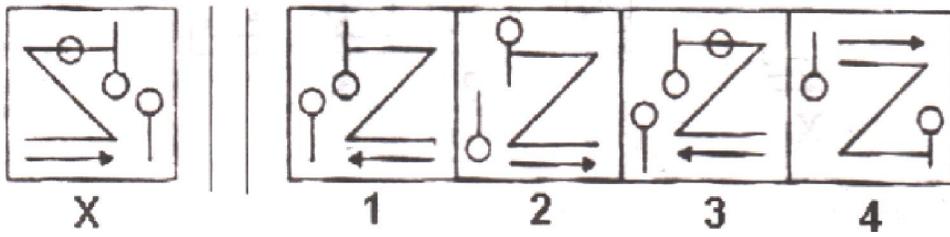


**Sol: 3**

**80.**
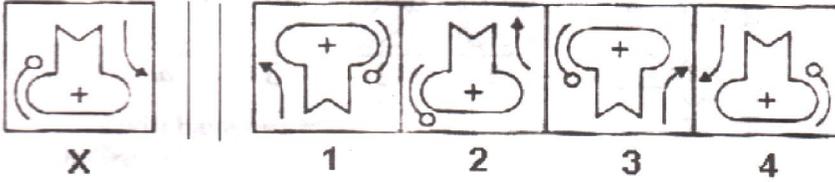


**Sol: 4**

**81.**



**Sol: 1**

**Directions Q (82):** In the following question, choose the correct water image of the figure X from amongst the alternatives 1, 2, 3, & 4 given along with It The water source is shown below the figure X.
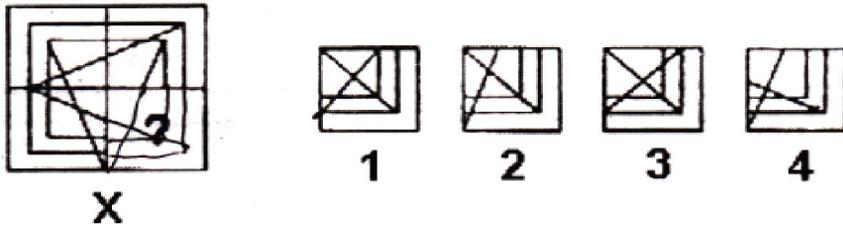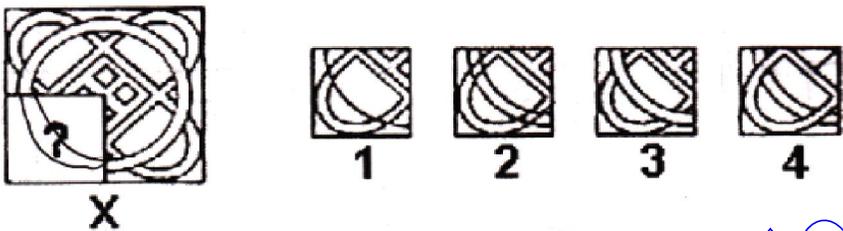
**82.**



**Sol: 1**

**Directions Q (83 - 86):** In each of the following questions, figure X is given with a part missing. Choose the alternative which will complete the missing part.
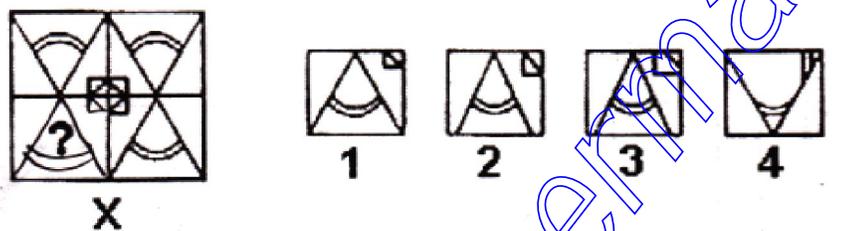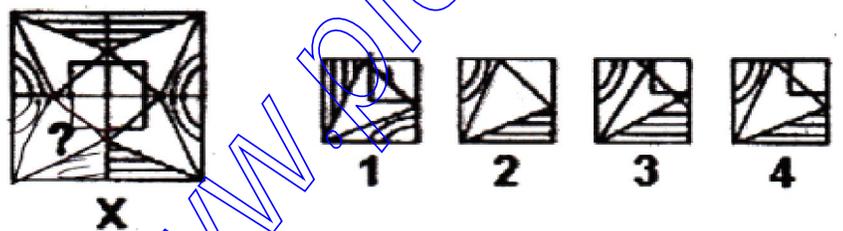
**83.**



**Sol: 4**

**84.**



**Sol: 3**

**85.**



**Sol: 1**

**86.**



**Sol: 4**

**Directions (87- 90):** A wooden cube is **painted** Blue on all four adjoining sides and Green on two opposite sides i.e. top and bottom. It is then cut at equal distances at right angles four times vertically (top to bottom) and two times horizontally as shown in the

figure where dotted lines represent the cuts made. Study the diagram and answer the questions that follow.
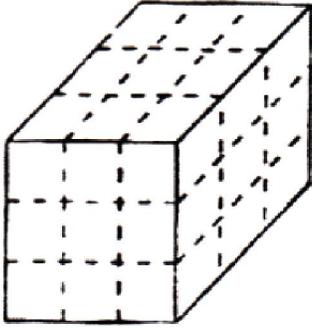


**87.** How many cubes will have one face painted only in Blue?

1. 1          2.      2

3. 3          4.      4

Sol: 4

**88.** How many cubes will have one face painted only in Green?

1. 1          2.      2

3. 3          4.      4

Sol: 2

**89.** How many cubes will have at least three sides painted?

1. 8          2.      6

3. 3          4.      2

Sol: 1

**90.** How many cubes will have no side painted at all?

1. 1          2.      2

3. 3          4.      4

Sol: 1