

FIITJEE Solutions to NTSE-II (2011)

ENGLISH	Code	13 - 15
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ROLL NO

BOOKLET NUMBER

NATIONAL COUNCIL OF THE EDUCATIONAL RESEARCH AND TRAINING

NATIONAL TALENT SEARCH EXAMINATION – 2011

MENTAL ABILITY TEST

(For student of Class VIII)

Time: 90 Minutes

Max Marks: 100

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you answer the question.

1. Answers are to be given on a **separate answer-sheet**.
2. Write your **eight-digit Roll Number** very clearly on the **test-booklet** and **answer-sheet** as given in your letter/ admission card.
3. Write down the **Booklet Number** in the appropriate box on the **answer sheet**.
4. There are 100 questions in this test. All are compulsory.
5. Please **follow the instruction** for marking the answers given on the answer sheet.
6. **For questions 1 – 100, put a cross mark (X) on the number of the correct alternative on the answer-sheet against the corresponding question number.**
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. Time permitting, 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 booklet** but not on the answer sheet/loose paper.
10. Every correct answer will be awarded one mark.
11. **Please return the Test-booklet and answer-sheet to the invigilator the test.**

PLEASE TURN OVER THE PAGE AND START YOUR WORK

1–4 Directions: Read the following information carefully and answer the questions based on it by selecting the correct option from the given alternatives.

Five students K, L, M, N and O study in a class, of these

- i) K and L study Physics and Chemistry
- ii) M and L study Physics and Mathematics
- iii) N and K study Biology and Chemistry
- iv) O and L study Anthropology and Civics
- v) O and N study Chemistry and Mathematics

1. Who among the students studies maximum number of subjects?

- 1. O
- 2. N
- 3. L
- 4. K

Sol. 3

2. Who among the students studies minimum number of subjects?

- 1. O
- 2. N
- 3. K
- 4. M

Sol. 4

3. Who among the students studies only four subjects?

- 1. M
- 2. O
- 3. N
- 4. K

Sol. 2

4. Which of the following pairs studies Chemistry and Civics?

- 1. K and N
- 2. L and M
- 3. L and O
- 4. M and N

Sol. 3

5–6 Directions: Read the following information carefully and answer the questions based on it by selecting the correct option from the given alternatives.

- i. S, T, U, V, W, X and Y are sitting along a wall facing North direction.
- ii. U is on the immediate right of V.
- iii. T is at an extreme end and has W as his neighbour.
- iv. Y is between W and X.
- v. V is sitting third from the other end.

5. Who is sitting on the left of X?

- 1. T
- 2. Y
- 3. W
- 4. U

Sol. 2

6. Where is S sitting?

- 1. Extreme East
- 2. Extreme West
- 3. In the middle
- 4. Second from the East end

Sol. 1

7–9 Directions: In the following questions some numbers are given in a sequence. Find out the number(s) from the alternatives, which will come in place of the question mark to continue the sequence.

7. 57, 54, 58, 55, 59, 56, 60, ?

- | | |
|-------|-------|
| 1. 64 | 2. 63 |
| 3. 58 | 4. 57 |

Sol. 4

8. 27, 31, 40, 56, 81, 117, ?

- | | |
|--------|--------|
| 1. 156 | 2. 165 |
| 3. 166 | 4. 169 |

Sol. 3

9. 55, 168, 57, 120, 60, 80, 62, 48, 65, 24, ?, ?

- | | |
|-----------|----------|
| 1. 69, 11 | 2. 67, 8 |
| 3. 8, 71 | 4. 6, 72 |

Sol. 2

10–18 Directions: In the following questions, there is a relationship between the two numbers/letters/figures on the left of the sign (: :). The same relationship exists between the two to the right of the sign (: :), of which one is missing. Find the missing one from the alternative.

10. 7 : 42 :: 9 : ?

- | | |
|-------|-------|
| 1. 75 | 2. 65 |
| 3. 46 | 4. 72 |

Sol. 4

11. 8 : 32 :: 12 : ?

- | | |
|-------|-------|
| 1. 52 | 2. 68 |
| 3. 72 | 4. 75 |

Sol. 3

12. DGOT : JKUX :: FINP : ?

- | | |
|---------|---------|
| 1. KMTU | 2. LNTS |
| 3. LMTT | 4. MNTU |

Sol. 3

13. EIKR : HMPX :: GKMT : ?

- | | |
|---------|---------|
| 1. KORY | 2. JORZ |
| 3. JNSZ | 4. INQZ |

Sol. 2

14. FLIP : AEIN :: IKNT : ?

- | | |
|---------|---------|
| 1. CGLR | 2. EGJR |
| 3. DGKR | 4. DHLS |

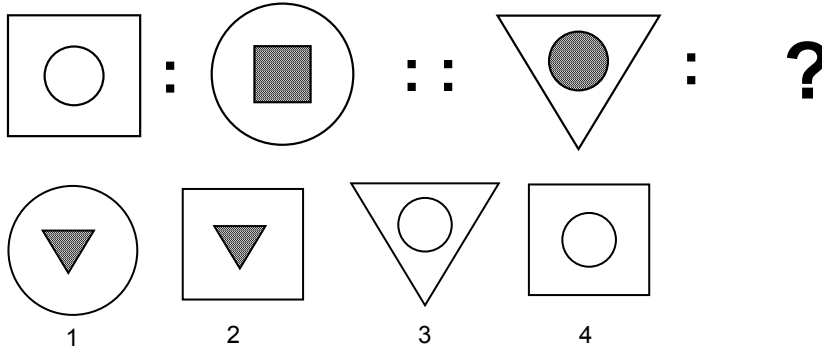
Sol. 3

15. ILNT : FHIN :: KOSV : ?
 1. IKMN
 3. ILNR

2. HKOQ
 4. HKNP

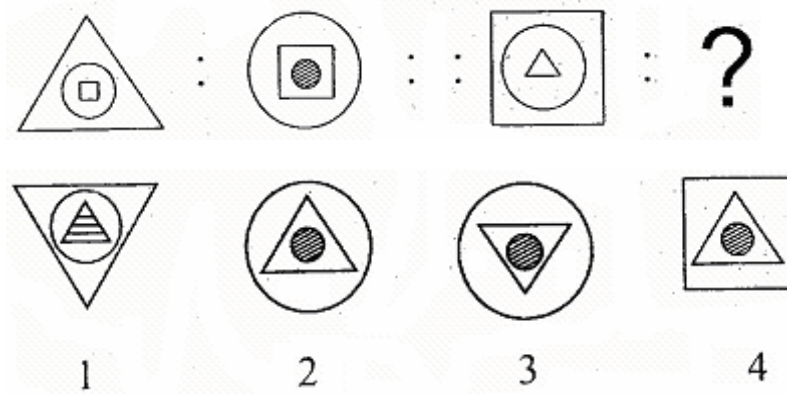
Sol. 4

- 16.



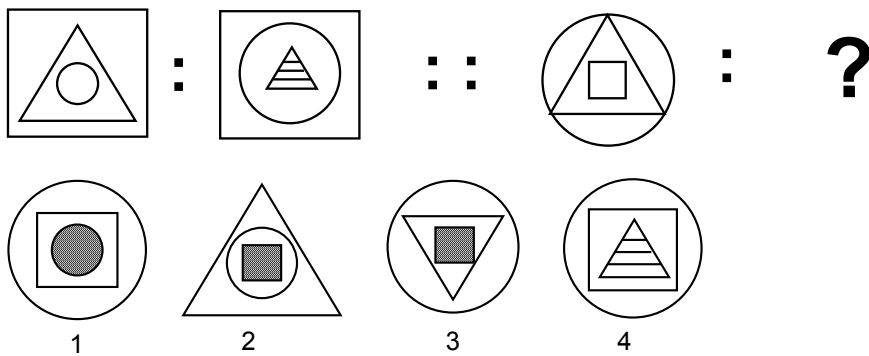
Sol. 1

- 17.



Sol. 2

- 18.



Sol. 4

19–23 Directions: Some words are given in column I. These words are written in a code language in column II. The code equivalents of the words given in column I and column II are not necessarily in the corresponding order. Choose the correct code for the words from the given alternatives.

	Column – I	Column – II
i.	Kahu chala na	hum kuch ja
ii.	Aj tak na	ek ja kam
iii.	Man tak pana	Saj ek ada
iv.	Hum chala man	kuch not ada
v.	Hum na jai	not kim ja

19. Which word will be code for word Aj?

1. ada
2. hum
3. kuch
4. kam

Sol. 4

20. Which word will be code for word Hum?

1. ja
2. not
3. kuch
4. ek

Sol. 2

21. Which word will be code for word pana?

1. ada
2. ek
3. saj
4. not

Sol. 3

22. Which word will be code for word Kahu?

1. hum
2. ada
3. not
4. ja

Sol. 1

23. Which word will be code for word Jai?

1. ek
2. saj
3. kim
4. ja

Sol. 3

24. If 20th September in a year is Wednesday, the number of Fridays in that month is

1. 6
2. 5
3. 4
4. 3

Sol. 2

25. If 14th February, 2011 falls on Monday then what will be the day on 14th February, 2013?

1. Friday
2. Tuesday
3. Wednesday
4. Thursday

Sol. 4

Find the odd one out from the alternatives.

26. 1. EHKM 2. KNRU
3. GJMP 4. MPSV

Sol. 2

27. 1. EY 2. DP
3. BD 4. GT

Sol. 4

28. 1. 130 2. 60
3. 24 4. 6

Sol. 1

29. 1. 11, 132 2. 9, 90
3. 8, 56 4. 6, 42

Sol. 3

30. In the following multiplication problem, find the numerical values of S, V and Z in that order

$$\begin{array}{r} \text{S T U V W} \\ \quad \quad \quad 1 \ 2 \\ \hline 4 \text{ W Z R S} \\ \text{S T 4 V W} \\ \hline \text{S 8 R U 7 2} \end{array}$$

1. 2, 5, 9 2. 2, 9, 5
3. 5, 9, 2 4. 9, 5, 2

Sol. 1

31. Given the following addition problem, find the number M E N in digits.

$$\begin{array}{r} \text{M A N} \\ + \text{N A M E} \\ \hline 3 \ 3 \ 3 \ 3 \end{array}$$

1. 321 2. 132
3. 123 4. 103

Sol. 4

32. Given that $ACT \div AT = 11$, find out which of the following does not stand for CAT to fulfill the above equation

1. 2 4 6 2. 6 1 5
3. 6 2 4 4. 8 3 5

Sol. 1

33. Given the following subtraction problem, find out which of the following numbers does not stand for CART.

$$\begin{array}{r} \text{C A R} \\ - \text{A R T} \\ \hline 2 \ 2 \ 2 \end{array}$$

1. 6 4 2 0 2. 7 5 3 1
3. 8 4 2 0 4. 9 7 5 3

Sol. 3

34. Take the two given statements to be true and decide which one of the inferences can be definitely drawn from these statements.

Statements:

All the students passed examination.

Some of the students are girls

Select the correct alternatives.

1. Some of the boys passed the examination.
2. All the girls students failed in the examination.
3. None of the boys passed the examination.
4. No girls student failed in the examination.

Sol. 4

- 35–36.** Take the given statements as true and decide which of the conclusions logically follow from the two statements.

35. Statements:

In a sports club all the members are not players but all of them are rich.

Mr. 'P' is a member of the sports club.

Conclusions:

I. Mr. 'P' plays the sport.

II. Mr. 'P' is rich.

- | | |
|-------------------------|------------------------------|
| 1. Only I follows | 2. Only II follows |
| 3. Both I and II follow | 4. Neither I nor II follows. |

Sol. 2

36. Statements:

Engineers marry only teachers.

Rashmi is a teacher

Conclusions:

I. Rashmi is married to an Engineer

II. Rashmi is not married to an Engineer

- | | |
|-------------------------|------------------------------|
| 1. Only I follows | 2. Only II follows |
| 3. Both I and II follow | 4. Neither I nor II follows. |

Sol. 4

- 37–41 Directions:** These questions are based on following information.

Rajesh, Sudhir and Mohan play football, hockey and cricket. Rajesh, Rakesh and Mohan play Hockey, Cricket and Basket Ball. Rajesh, Sudhir, Naresh and Mohan play football and cricket.

37. Which two boys play all the games?

- | | |
|----------------------|----------------------|
| 1. Rajesh and Sudhir | 2. Rajesh and Rakesh |
| 3. Sudhir and Mohan | 4. Rajesh and Mohan |

Sol. 4

38. Which game is played by all the boys?

- | | |
|----------------|------------|
| 1. Basket Ball | 2. Cricket |
| 3. Football | 4. Hockey |

Sol. 2

39. Who does not play football?

- | | |
|-----------|-----------|
| 1. Rakesh | 2. Sudhir |
| 3. Naresh | 4. Mohan |

Sol. 1

40. Which two games are not played by Naresh?

- | | |
|--------------------------|----------------------------|
| 1. Cricket and Football | 2. Cricket and Hockey |
| 3. Hockey and Basketball | 4. Football and Basketball |

Sol. 3

41. Who do not play Basketball?

- | | |
|----------------------|----------------------|
| 1. Rajesh and Mohan | 2. Suchir and Naresh |
| 3. Rakesh and Rajesh | 4. Mohan and Rakesh |

Sol. 2

42. If '–' means 'multiplied by', '×' means 'plus', '+' means 'divided by' and '÷' means 'minus', then $14 - 10 \times 4 \div 16 + 8 = ?$

- | | |
|--------|--------|
| 1. 142 | 2. 134 |
| 3. 6 | 4. 5 |

Sol. 1

43. If '+' means 'multiplied by', '–' means 'divided by', '×' means 'plus' and '÷' means 'minus', then $(18 + 10 \times 20) - 8 \div 6 = ?$

- | | |
|-------|-------|
| 1. 92 | 2. 35 |
| 3. 26 | 4. 19 |

Sol. 4

44. If '+' means 'divided by', '–' means 'multiplied', '×' means 'plus' and '÷' means 'minus', then $(280 + 10 \times 20) - 8 \div 6 = ?$

- | | |
|--------|--------|
| 1. 378 | 2. 258 |
| 3. 70 | 4. 64 |

Sol. 1

45. Shalini is standing at the South-East corner of a rectangular field. She starts crossing the field diagonally. After walking half the distance, she turns right, walks some distance and turns left. Which direction is Shalini facing now?

- | | |
|---------------|---------------|
| 1. South-East | 2. South-West |
| 3. North-East | 4. North-West |

Sol. 4

46. One morning after sunrise, Seema was standing facing a pole. The shadow of the pole fell exactly to her right. Which direction was she facing?

- | | |
|----------|----------|
| 1. North | 2. South |
| 3. West | 4. East |

Sol. 2

47. Rahul travels 10 km to the North. He turns to the right and walks 5 km. Then again he turns to his right and moves 10 km forward. How many km away from starting point is he?

- | | |
|----------|----------|
| 1. 26 km | 2. 19 km |
| 3. 13 km | 4. 5 km |

Sol. 4

48. Ram starts from a point P, drives 2 km towards North. He turns to his left and drives 3 km and after taking another turn to his left he drives 2 km, and finishes at point Q. After the first turns in which direction Ram will be driving?
- | | |
|---------|----------|
| 1. West | 2. North |
| 3. East | 4. South |

Sol. 1

49–52 Directions: In each of the following, a question is followed by two statements marked I and II. Decide which of the statements are sufficient to answer the question. Choose your answer from the given alternative.

49. Statements:
I. Vinod is 6 feet tall
II. Vinod is standing 2 feet away from Pramod.
1. Statement I alone is sufficient to answer the problem.
 2. Statement II alone is sufficient to answer the problem.
 3. Statement I and II both are needed.
 4. Statement I and II both are not sufficient.

Sol. 1

50. Rohit took a test that had 60 questions numbered from 1 to 60. How many questions did he answer correctly in the second half of the test?

Statements:

- I. The number of questions he answered correctly in the second half of test was 7 less than the number of the test
 - II. He answered $\frac{5}{6}$ of the odd numbered questions correctly and $\frac{4}{5}$ of the even numbered correctly.
1. Statement I alone is sufficient to answer the problem.
 2. Statement II alone is sufficient to answer the problem.
 3. Statement I and II both are needed.
 4. Statement I and II both are not sufficient.

Sol. 3

51. Train A leaves town X for town Y and travels at a constant speed. At the same time train B leaves town X and also travels at a constant speed. Town Z is between X and Y. Towns X, Z and Y lie on a straight line. Which train has greater speed?

Statements:

- I. Train B arrives at town Z before train A.
 - II. Town Z is closer to X than Y.
1. Statement I alone is sufficient to answer the problem.
 2. Statement II alone is sufficient to answer the problem.
 3. Statements I and II both are needed.
 4. Statements I and II both are not sufficient

Sol. 3

52. Who is the father of M?

Statements:

I. P and Q are brothers.

II. Q's wife is the sister of M's wife

1. Statement I alone is sufficient to answer the problem.
2. Statement II alone is sufficient to answer the problem.
3. Statement I and II both are needed.
4. Statement I and II both are not sufficient.

Sol. 4

53. Six persons P, Q, R, S, T and U are sitting in two rows, three in each as per following information. T is not at the end of any row.

S is second to the left of U.

R the neighbour of T is sitting diagonally opposite to S.

Q is the neighbour of U

Which of the following are sitting diagonally opposite to each other.

1. P and R
2. S and P
3. P and U`
4. None of these

Sol. 3

54. In a queue, Ramesh is the 7th from the back. Suresh is standing 6th from the front and only Shyam is standing in between the tow. Find the minimum number of boys standing in the queue?

1. 8
2. 10
3. 12
4. 14

Sol. 2

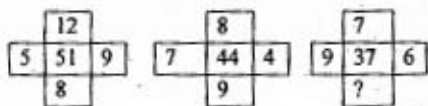
55. In a queue of 10 persons, A is standing on 7th from front and B is standing 6th from back. 3 persons entered the queue disrupting the positions of A and B. Find the pair of numbers indicating minimum possible disruption in their position from the front?

1. 6, 10
2. 6, 9
3. 7, 10
4. 7, 9

Sol. 4

Directions: (Q. 56 to 58) In the following questions the cells of a square are filled with numbers with one number missing in a cell Find from the alternatives the number, which will replace the question mark in the cell.

56.



1. 3
2. 4
3. 5
4. 13

Sol. 4

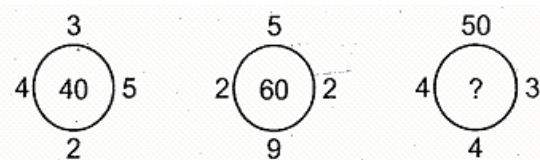
57.

2	4	9
6	4	25
8	4	?

1. 41
2. 36
3. 32
4. 12

Sol. 2

58.



1. 80
2. 88
3. 800
4. 808

Sol. 3

59–63 Directions: A, B, C, D, E and F are members of a family. Amongst them there are lawyer, doctor, teacher, salesman, engineer and an accountant. There are two married couples in the family. 'D' who is a salesman is married to the lady teacher. Doctor is married to the lawyer. 'F' who is an accountant is son of 'B' and also brother of 'E'. 'C' who is lawyer is daughter-in-law of 'A'. 'E' is an unmarried engineer. 'A' is grand mother of 'F'.

59. What is the profession of B?

1. Salesman
2. Doctor
3. Lawyer
4. Teacher

Sol. 2

60. What is the profession of A?

1. Teacher
2. Doctor
3. Lawyer
4. Engineer

Sol. 1

61. What is the relation of B with D?

1. Brother
2. Grandson
3. Son
4. Father

Sol. 3

62. What is the relation of D with F?

1. Husband
2. Brother
3. Father
4. Grandfather

Sol. 4

63. Which of the following is a married couple?

1. C and D
2. A and B
3. B and C
4. D and B

Sol. 3

64–66 Directions: The following questions are based on the given matrix. The value of each letter is the product of its row and column number e.g. the value of 'Z' is $3 \times 4 = 12$.

	0	1	2	3	4
0	B	O	J	C	P
1	E	N	H	I	D
2	G	R	A	M	V
3	F	S	T	L	Z
4	W	X	Y	U	K

Answer the following questions.

64. Find the letters which make the least total among the alternatives.
- | | |
|--------|--------|
| 1. DKA | 2. FHY |
| 3. ODX | 4. VTM |

Sol. 3

65. What is the total of GREAT?
- | | |
|-------|-------|
| 1. 8 | 2. 10 |
| 3. 12 | 4. 14 |

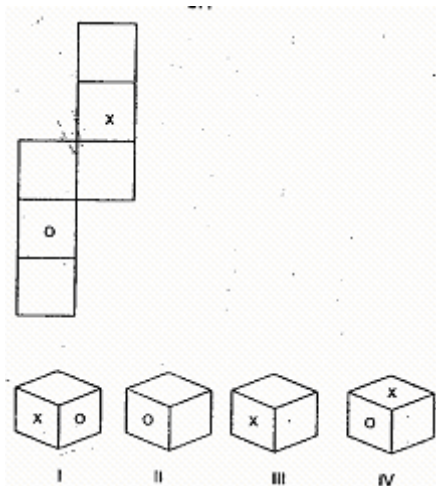
Sol. 3

66. Find the letters which make the highest total among the alternatives.
- | | |
|---------|---------|
| 1. PLOT | 2. PLAN |
| 3. PLAY | 4. PLUS |

Sol. 4

67–70 Directions: In the following questions, the figure is folded to form a box. Choose from among the alternatives the box or boxes that can be formed by folding the figure.

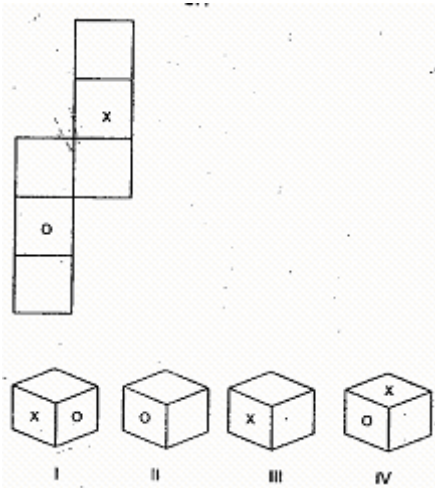
67.



- | | |
|-------------|--------------------|
| 1. Only IV | 2. Both II and III |
| 3. Only III | 4. Both I and IV |

Sol. 2

68.

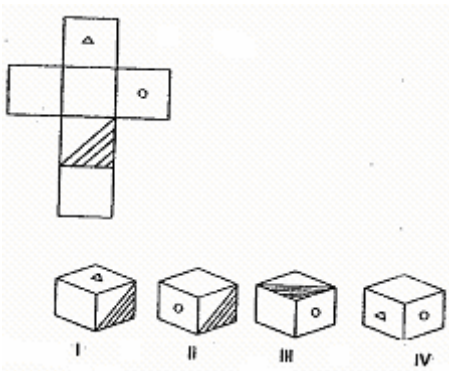


- 1. Both II and IV
- 3. IV only

- 2. Both I and II
- 4. II only

Sol. 3

69.

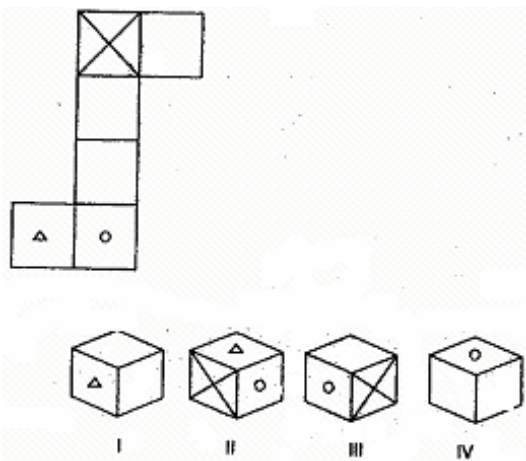


- 1. II, III and IV
- 3. II and III only

- 2. III and IV only
- 4. I and IV only

Sol. 2

70.

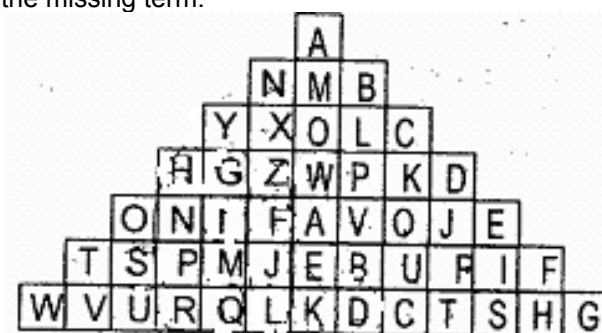


- 1. Only I
- 3. Only IV

- 2. Both II and III
- 4. All I, II III and IV

Sol. 4

71–75 Directions: A pyramid of letters is given below. Study the pyramid and select the correct alternative to fill in the missing term.



71. HNPRQ, GIMQL, ZFJLK, ?, PVBDC
 1. QLKDC
 2. WAEKD
 3. WPVBD
 4. IFAVQ

Sol. 2

72. FHSIE, ISTRJ, RTCUQ, UCDBV, ?
 1. JLKDC
 2. LPVBD
 3. BDKEA
 4. BDCTS

Sol. 3

73. YGIM, LOXY, ZFJL, ?
 1. CUQK
 2. JQVA
 3. PWZG
 4. KPWZ

Sol. 4

74. GYXOW, ZXOLP, FZWPV, ?
 1. AWPQK
 2. PVQJE
 3. KQUCT
 4. EBURI

Sol. 1

75. AMONB, YGIHZ, ?
 1. LPVBD
 2. OSUTP
 3. OSUTP
 4. LPVQJ

Sol. 3

76–78 Directions: The capital letters in each of the following words are coded as figures on the right side. Find out the codes for letters and answer the questions that follow.



76. Which is the code for 'STOLEN'?

1. ○ × ◊ × ● ÷
2. ○ + ÷ × ◊ ●
3. † ○ ▲ ÷ × ◊
4. ○ + △ × ◊ ●

Sol. 4

77. Which is the code of 'LOWER'?

1. × ● % △ ÷
2. × △ % ◊ ÷
3. △ † % ÷ ◊
4. × ● % △ ÷

Sol. 2

78. Which is the code for 'DRESSING'?

1. □ ÷ ◊ ○ ○ ▲ ● |
2. × ÷ ◊ ○ ○ ▲ ● | +
3. ÷ □ ◊ ○ ○ ▲ ◊ +
4. □ % ◊ ○ ○ △ ● |

Sol. 1

79–80 Directions: The cells in diagram I and sectors in diagram II contain two letters each from A to Z.

DIAGRAM I (आरेख I)

AM	NF	CO
BU	TV	DG
EW	IZ	XY

DIAGRAM II (आरेख II)



The first letters in each cell is coded by the cell shape whereas the second letter is represented by cell shape along with a dot in it.

For example

1. A is represented as
2. M is represented as
3. K is represented as
4. P is represented as

79. Identify the response which represents CHAIR.

1. L < ^ n J
2. L < J n ^
3. L J < n ^
4. ^ < L n J

Sol. 2

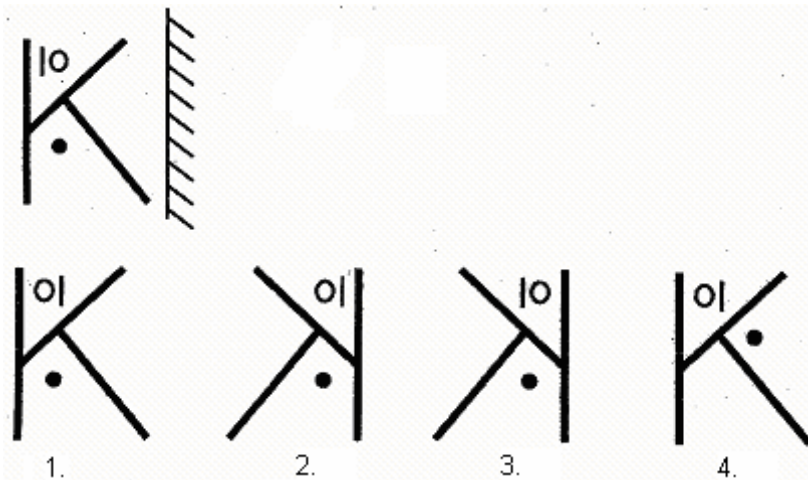
80. Identify the response which represents MONKEY.

1. > □ □ < ▽ ▽
2. < ▽ > ▽ □ ▽
3. ▽ □ > ▽ ▽ ▽
4. ▽ ▽ □ > ▽ □

Sol. 4

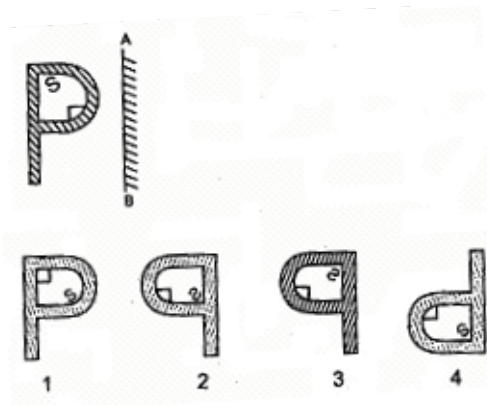
81–82 **Directions:** Find the correct alternative which is the mirror image of the figure given in each question.

81.



Sol. 2

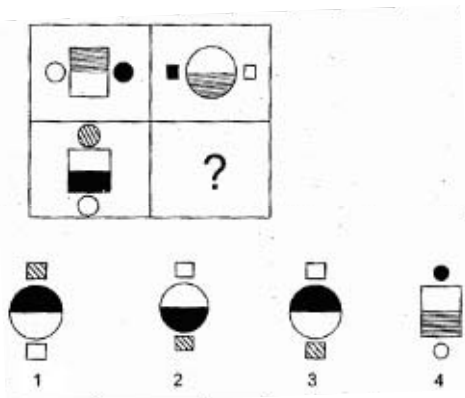
82.



Sol. 3

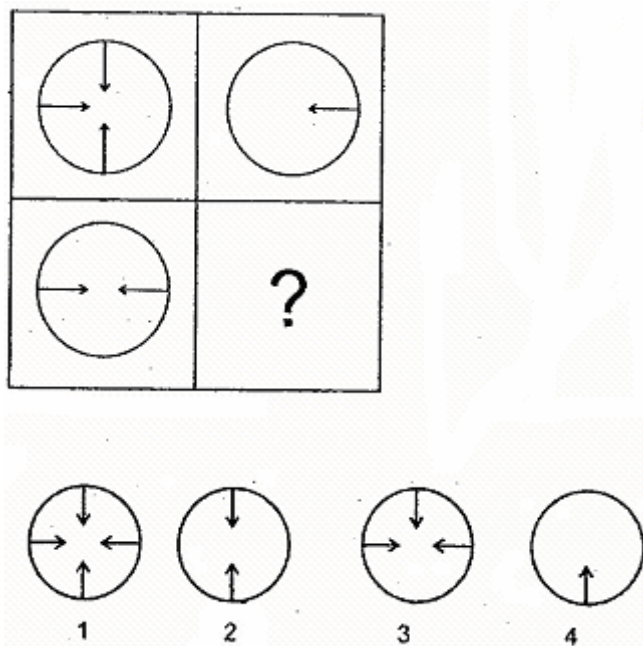
83–85 Directions: Study the pattern of figures given to find out the relationship among them. Choose the missing figure from the given alternatives.

83.



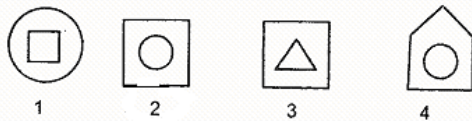
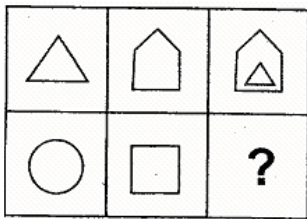
Sol. 3

84.



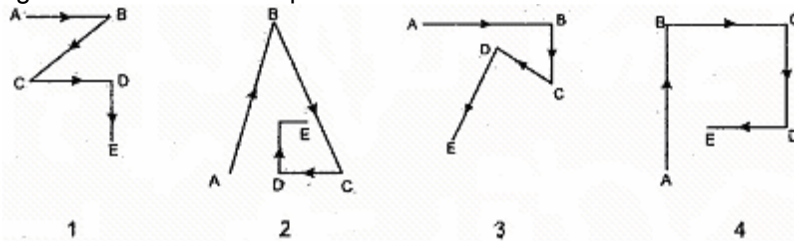
Sol. 2

85.



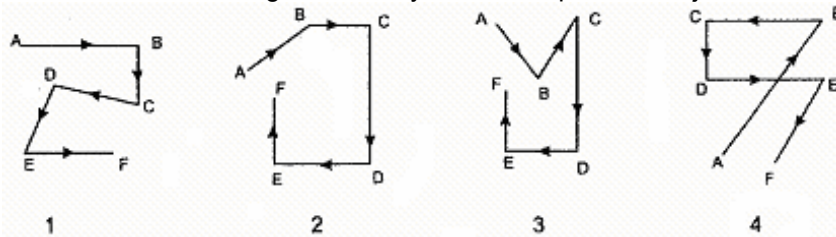
Sol. 2

86. Rakesh starts from A and walks towards East to B. He turns south and walks to C. Then he turns north-west and walks to D. Finally he turns south-west and comes to E. Which of the answer figures shows the exact path he traced?



Sol. 3

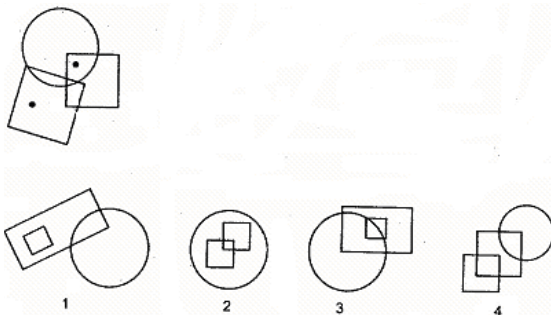
87. Pankaj starts from A and walks north-east to B. He turns west and walks to C. Then turns south and walks to D. He then turns east and walks to E. Finally he turns south-west and walks to F. Which of the answer figures exactly shows the path Pankaj traced?



Sol. 4

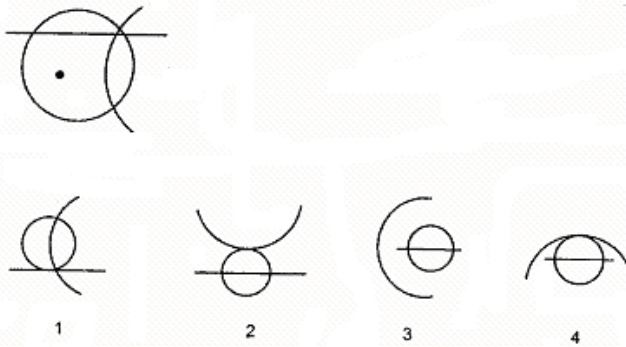
88–90 Directions: The figure in the question items has dot/dots that fulfil some conditions. Find out a figure from the alternatives where if dot/dots are placed they will fulfil the same conditions.

88.



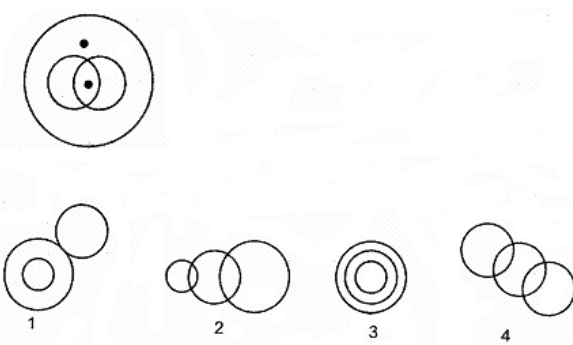
Sol. 4

89.



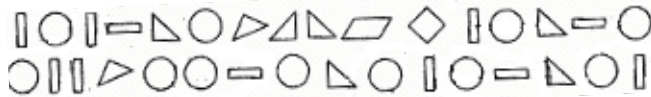
Sol. 1

90.



Sol. 2

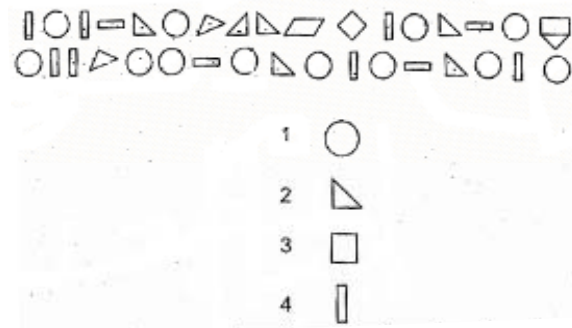
91. In the following how many times is rectangle preceded by a circle but followed by a triangle?



- | | |
|------|------|
| 1. 1 | 2. 2 |
| 3. 3 | 4. 4 |

Sol. 1

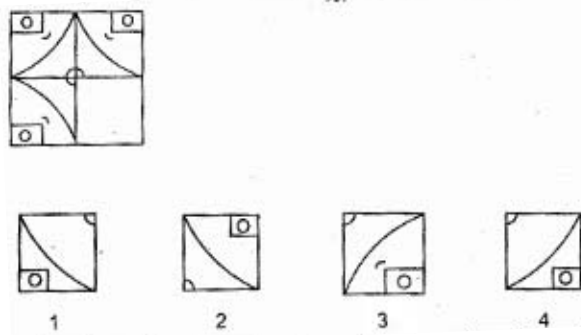
92. Which figure has been used most of the times?



Sol. 1

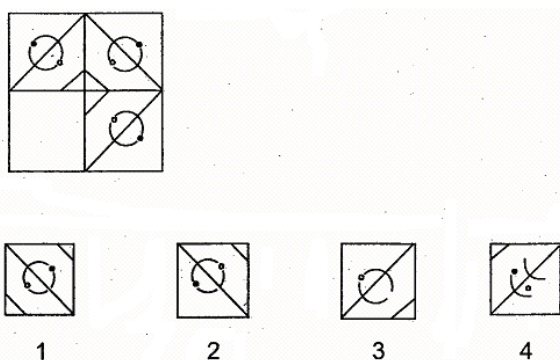
93–95 Directions: In each of the following questions a design/pattern is given. One small segment is missing from the design. Select the alternative which will complete the design when placed in the missing area.

93.



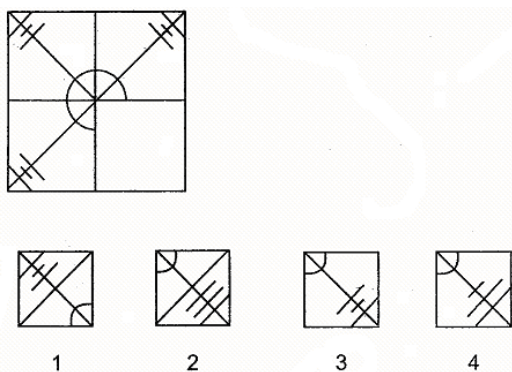
Sol. 3

94.



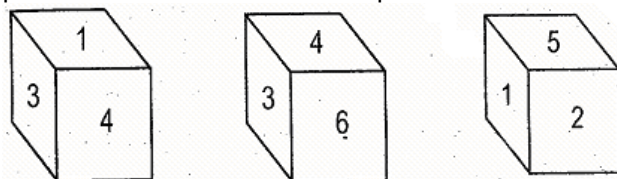
Sol. 2

95.



Sol. 3

96–97 Directions: A dice is thrown 3 times and its 3 positions are given. Select the alternative which provides correct answer to the question asked.



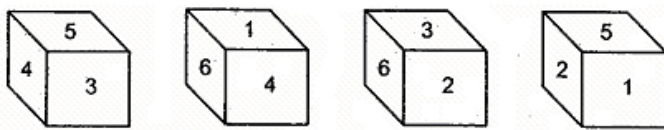
96. Which number is opposite 4?
 1. 1
 2. 3
 3. 5
 4. 6

Sol. 3

97. Which number is opposite 1?
 1. 2
 2. 3
 3. 4
 4. 6

Sol. 4

Directions: (Q. 98 to 100) Four positions of the same dice have been shown. Select the alternative which provides correct answer to the question asked.



98. Which number would be opposite to 3?
 1. 1
 2. 4
 3. 5
 4. 6

Sol. 1

99. Which number would be opposite to 5?
 1. 2
 2. 3
 3. 4
 4. 6

Sol. 4

100. Which number would be opposite to 4?
 1. 2
 2. 3
 3. 5
 4. 6

Sol. 1