

FIITJEE Solutions to NTSE-II (2010)

ENGLISH - HINDI Code	13 - 15
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ROLL NO

BOOKLET NUMBER

NATIONAL COUNCIL OF THE EDUCATIONAL RESEARCH AND TRAINING

NATIONAL TALENT SEARCH EXAMINATION – 2010

MENTAL ABILITY TEST
(For student of Class VIII)

Time: 90 Minutes

Max Marks: 100

INSTRUCTIONS TO CANDIDATES

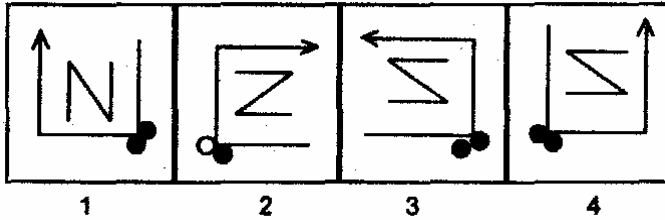
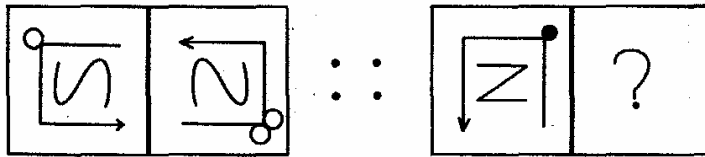
Read the following instructions carefully before you answer the question.

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 – 90, put a cross mark (X) on the number of the correct alternative on the answer-sheet against the corresponding question number. For questions 91-100, write the answers in the given space.**
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

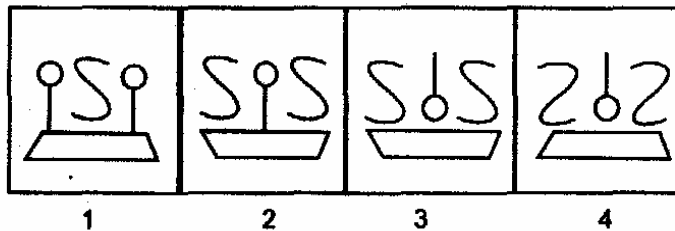
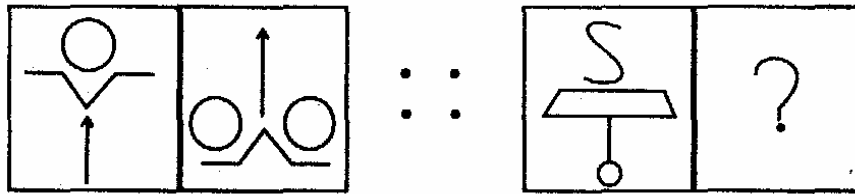
1-9 Directions: In each of the following questions, there is some relationship between the two terms (figures, letter clusters or numbers) on the left of the sign (: :). The same relationship exists between the two terms on the right of the sign (: :) of which one is missing. Find the missing one from the four alternatives.

1.



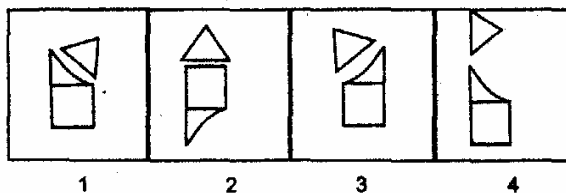
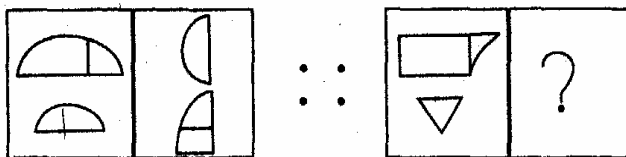
Ans. 4

2.



Ans. 3

3.



Ans. 3

4. FEAL : LEAF :: EAKT : ?
 1. ETAK
 2. TAKE
 3. KATE
 4. KETA

Ans. 2

5. ACEG : JLNP :: BDFH : ?
 1. KMOQ
 2. KLON
 3. NMPR
 4. LMNO

Ans. 1

6. BJRZ : FNVD :: HPXF : ?
 1. RZFN
 2. VDFJ
 3. LTBJ
 4. NVDJ

Ans. 3

7. 7 : 64 :: 13 : ?
 1. 169
 2. 196
 3. 216
 4. 225

Ans. 2

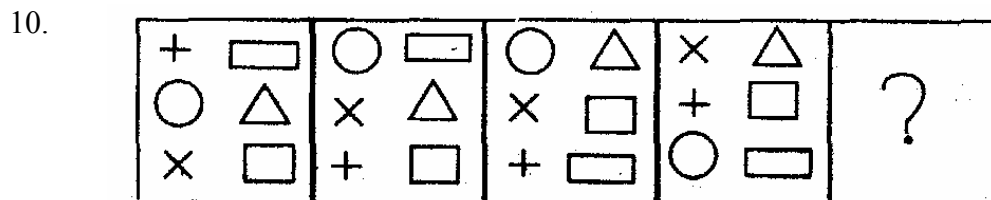
8. 64 : 9 :: 81 : ?
 1. 15
 2. 12
 3. 10
 4. 7

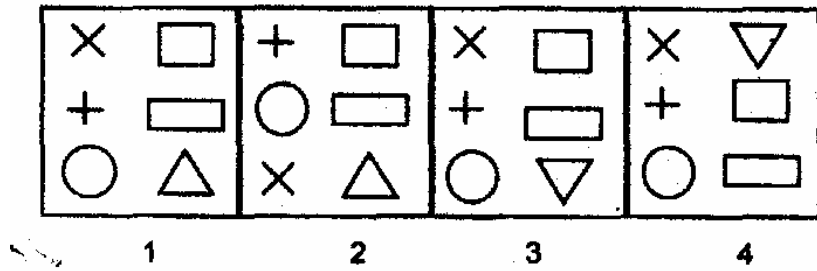
Ans. 3

9. 121 : 1331 :: 81 ; ?
 1. 750
 2. 735
 3. 729
 4. 675

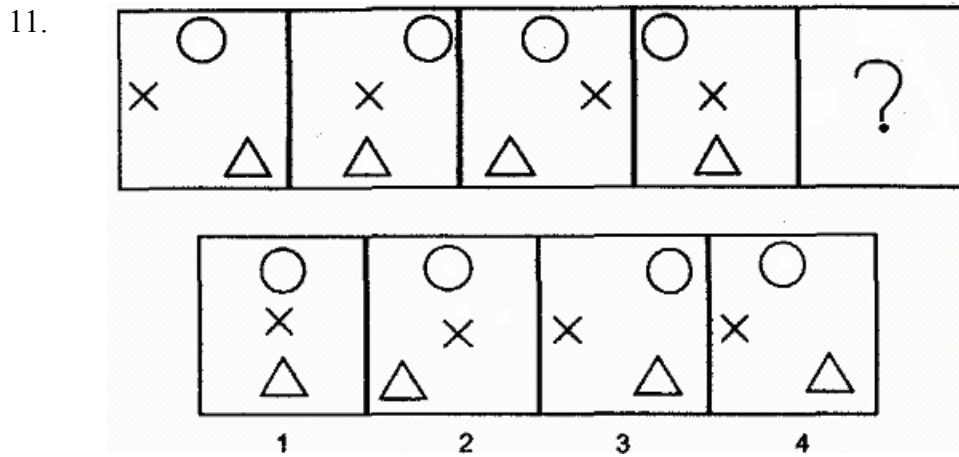
Ans. 3

10-11 Directions : The figures in each of the following questions follow a series. Select the figure from the given alternatives which would continue the series.



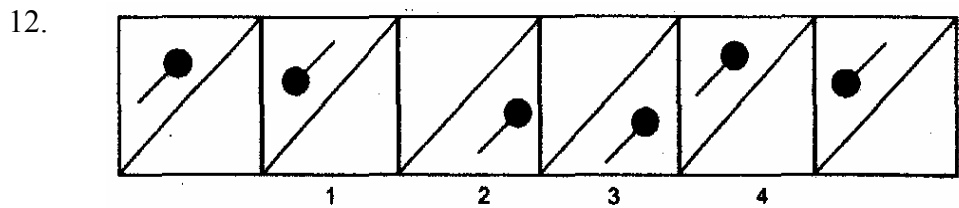


Ans. 1

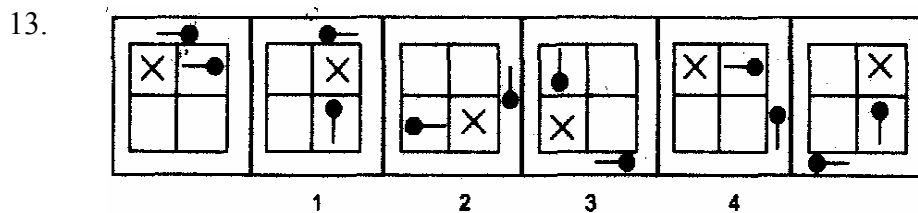


Ans. 4

12-13 Direction : In the following questions, find the one that does not fit in the sequence established by the six figures given.



Ans. 3



Ans. 4

14-16 Directions : The following questions are based on letters sequence. In each sequence some letters are missing. Find the correct alternative in each question to fill the blanks.

14. _ aba _ a _ a _ ab _

1. a a b a a
3. a b b a b

2. b a b b a
4. b b a a b

Ans. 1

15. n _ mn _ mm _ nm _ n

1. n m m n
3. n n m m

2. m n n m
4. m m n m

Ans. 2

16. ba _ bb _ a _ b _ a _

1. b a a b a
3. a a b a b

2. a b a a b
4. b b a b a

Ans. 3

17-19 Directions: In each of the following questions a number series is given. Find out the missing term of the series.

17. 806, 519, 287, 232, 55, ?

1. 47
3. 177

2. 137
4. 205

Ans. 3

18. 20, 36, 61, 97, 146, ?

1. 179
3. 207

2. 197
4. 210

Ans. 4

19. 57, 79, 911, 1113, 1315, ?

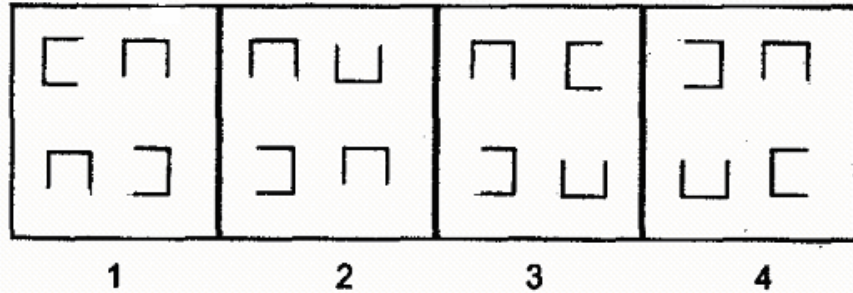
1. 1419
3. 1517

2. 1503
4. 1719

Ans. 3

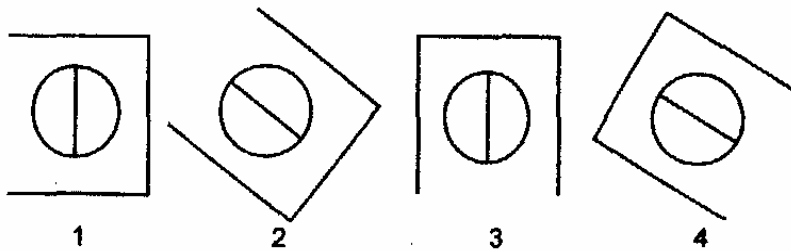
20-27 Directions: In the following questions, four items(figures, letter clusters or numbers) are given. Three of them are alike in a certain way. Find the one which is different from others.

20.



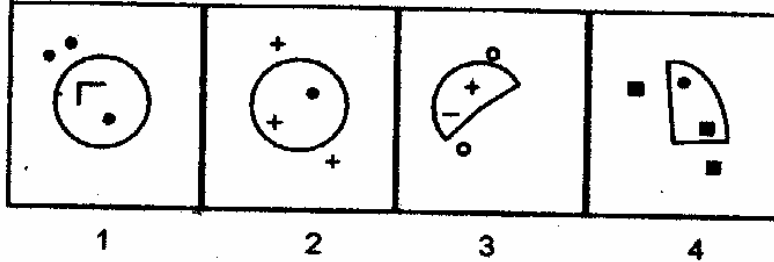
Ans. 2

21.



Ans. 1

22.



Ans. 3

23. 1. CDBE
2. LMKN
3. RSQT
4. WXYV

Ans. 4

24. 1. KEAI
2. NEAL
3. REAT
4. DEAB

Ans. 1

25. 1. 81 : 729
 2. 5 : 26
 3. 49 : 343
 4. 36 : 226

Ans. 4

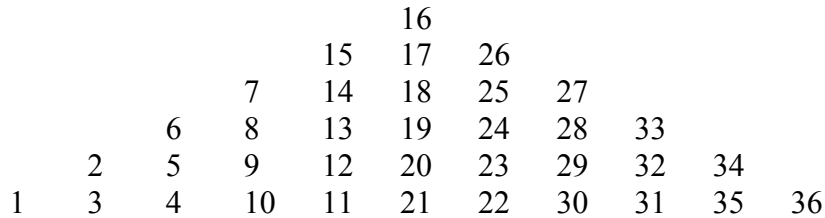
26. 1. 3 : 17
 2. 16 : 64
 3. 8 : 82
 4. 9 : 101

Ans. 2

27. 1. 54
 2. 90
 3. 135
 4. 188

Ans. 4

28-30 Directions: In the following questions numbers are arranged in the form of a pyramid. Form this pyramid four sets of numbers are selected based on certain logic. Two of these are given on the left and two on the right of the sign (: :). One set of the numbers one the right goes missing. Choose that set of numbers from the alternatives which carries the same logic.



28. 1, 2, 4 : 5, 10, 12, :: 31, 34, 36 : ?
 1. 11, 20, 22
 2. 24, 29, 33
 3. 23, 30, 32
 4. 20, 22, 29

Ans. 3

29. 18, 19, 20 : 7, 8, 9 :: ? : 23, 24, 25
 1. 31, 32, 33
 2. 27, 28, 29
 3. 23, 24, 25
 4. 12, 13, 14

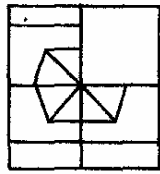
Ans. 4

30. 3, 8, 17 : 4, 13, 26 :: ? : 17, 28, 35
 1. 26, 28, 35
 2. 15, 24, 31
 3. 17, 24, 31
 4. 26, 27, 33

Ans. 2

31-32 Directions: In the following questions a pattern is given with a part missing. Find out the part which will complete the pattern.

31.



1



2



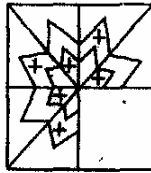
3



4

Ans. 3

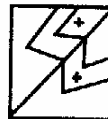
32.



1



2



3

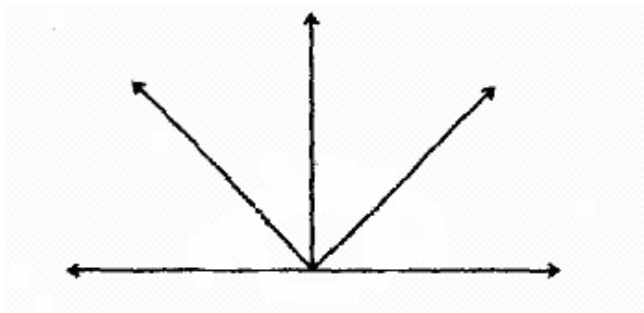


4

Ans. 4

33-34 Directions: In each of the following questions a problem figure is given. Study the figure carefully and then answer the questions given under it.

33.



How many angles are there

1. 11

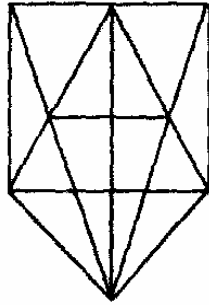
2. 10

3. 8

4. 5

Ans. 2

34.



1. 20
3. 26

2. 21
4. 28

Ans. 3

35-37 Directions: In each of the following questions, two statements are given followed by two conclusions numbered I and II. You have to take two given statements to be true even if they seem to be at variance from the commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows. Find the correct answer from the given alternatives.

35. Statements: 1. All lamps are books.
2. No book is coloured.

Conclusions: I. Some lamps are coloured.
II. No lamp is coloured.

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

Ans. 4

36. Statements: 1. All envelopes are umbrellas.
2. All umbrellas are chalks.

Conclusions: I. Some chalks are envelopes.
II. Some umbrellas are not envelopes.

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

Ans. 3

37. Statements: 1. All dogs are reptiles.
2. Some cats are reptiles.
Conclusions: I. Some dogs are cats.
2. Some cats are not reptiles.
1. Only conclusion I follows.
 2. Only conclusion II follows.
 3. Both I and II follow.
 4. Nether I nor II follows.

Ans. 2

38. A says, "If B gives me Rs.40 he will have half as much as C. But if C gives me Rs.40 then three of us will have the same amount. What is the total amount of money that A, B and C have among them?"
1. 240
 2. 320
 3. 360
 4. 420

Ans. 3

39. At the end of a dinner party all the eight people present shake hands with each other once. How many hand shakes will there be altogether?
1. 8
 2. 16
 3. 28
 4. 64

Ans. 3

40. In an examination, a student attempted 15 questions correctly and secured 40 marks. If there were two types of questions i.e. of 2 marks and 4 marks, how many questions of 2 marks did he attempt correctly?
1. 5
 2. 10
 3. 12
 4. 15

Ans. 2

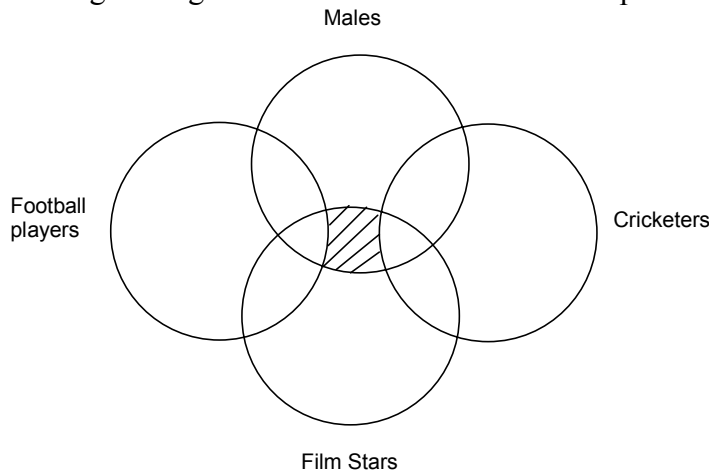
41. The number of boys in a class is four times the number of girls. Which one of the following numbers cannot represent the total number of children in the class?
1. 5
 2. 16
 3. 30
 4. 40

Ans. 2

42. Between two book ends in your study are displayed your four favourite puzzle books. If you decide to arrange the four books in every possible combination and move just one books every minute how long would it take you?
1. 24 minutes
 2. 20 minutes
 3. 8 minutes
 4. 4 minutes

Ans. 1

43. In the given figure below what does the shaded portion depict?



1. A group of male film stars who are football players.
2. A group of film stars who both football players and cricketers.
3. A group of male film stars who neither play cricket nor football.
4. A group of male film stars who are cricketers but not football players.

Ans. 3

44. Ajay wants to go to the Management Institute. He starts from home, which is in the East of a crossing. He walks towards the crossing. The road to the left ends in a school, straight ahead is a community hall. The road to the right leads to the Management Institute. In which direction is the Management Institute from the crossing?

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

Ans. 2

45. Vineeta's house is to the right of Kareena's house at a distance of 30 metres in the same row facing north. Sonal's house is in the north-east direction of Kareena's house at distance of 35 metres. Determine the direction of Vineeta's house with respect to Sonal's house.

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

Ans. 1

46. From his house Mohan moves 30 km in North-West direction and the 30 km in South West direction. Next he moves 30 km in South East direction. Finally he turns towards his house. In which direction is he moving?

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

Ans. 1

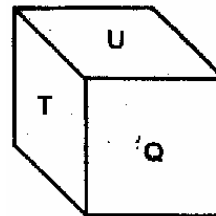
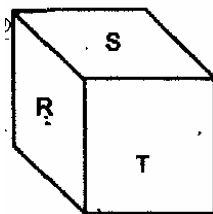
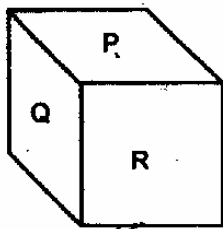
47. If North-West becomes South, South-West becomes East and so on, what will West become?
- | | |
|----------|---------------|
| 1. North | 2. North East |
| 3. South | 4. South East |

Ans. 2

48. If the teachers are to the West of Principal's Office and students are to the North of Principal's Office, in what direction are teachers with respect to the students?
- | | |
|----------|---------------|
| 1. South | 2. South West |
| 3. North | 4. North East |

Ans. 4

49. A dice is thrown thrice and its three positions are given below. Find the alphabet O pposite P?

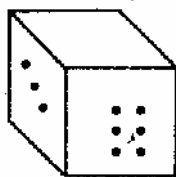


- | |
|------|
| 1. R |
| 3. Q |

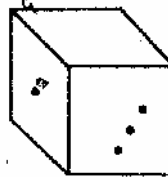
- | |
|------|
| 2. T |
| 4. S |

Ans. 4

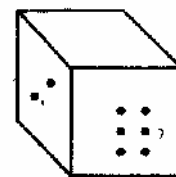
50. The six dices are given below. The top face of each dice is erased. The sum of the dots on the front, back and top, bottom face is 7. If the odd numbered dices have even number of dots on their top faces and even numbered dices have odd number of dots on their top faces, what would be the total number of dots on the top faces?



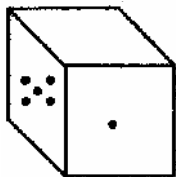
1



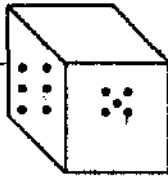
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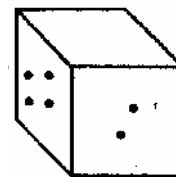
3



4



5



6

- | |
|-------|
| 1. 25 |
| 3. 21 |

- | |
|-------|
| 2. 23 |
| 4. 19 |

Ans. 4

51. If + means \times , - means \div , \div means - and \times means +, then which one of the following equations is correct?

- | | |
|--------------------------------------|-----------------------------------|
| 1. $7 + 8 - 2 \div 5 \times 12 = 45$ | 2. $36 - 6 + 10 \times 5 = 65$ |
| 3. $66 \times 4 - 9 + 11 = 88$ | 4. $162 + 10 - 2 \times 12 = 218$ |

Ans. 2

52. In the following equation, two signs need to be interchanged to make it correct. Choose the signs from the given alternatives.

$$3 \times 5 + 3 - 18 \div 3 = 12$$

- | | |
|-------------------|-------------------|
| 1. \div and + | 2. \times and - |
| 3. \times and + | 4. + and - |

Ans. 3

53. If * = -; # = +; @ = =; \$ = \div ; & = \times , then which one of the following alternatives is true?

- | | |
|-----------------------------------|-------------------------------------|
| 1. $(6 \# 2) \$ 2 @ (2 \& 8) * 1$ | 2. $81 * 4 \& 3 @ 4 \# 16 * 3$ |
| 3. $(81 * 4) \& 3 @ 8 \$ 15 \& 7$ | 4. $(15 * 4) \& 3 @ (60 \$ 2) \# 3$ |

Ans. 4

54. If interchanges are made in signs and numbers, which one of the four equations given in the alternatives would be correct?

Interchange : sign + and \div and number 3 and 6

- | | |
|------------------------|-------------------------|
| 1. $3 + 6 \div 6 = 10$ | 2. $6 + 3 \div 4 = 2.5$ |
| 3. $6 \div 3 + 3 = 6$ | 4. $3 + 6 \div 2 = 4$ |

Ans. 4

55. If 0 stands for the operation "Add and double the sum", that is a 0 b = 2(a + b); and \otimes stands for "Multiply and halve", that is, a \otimes b = $\frac{1}{2} ab$, find the value of $(5 \otimes 4) 0 (7 \otimes 6)$

- | | |
|--------|-------|
| 1. 117 | 2. 88 |
| 3. 62 | 4. 31 |

Ans. 3

56. If alternate English alphabets starting from c such as c, e, g, I and so on, are written in small letters while others in capitals, then how the 3rd day from Monday will be written?

- | | |
|----------------------|--------------------|
| 1. W e D N e S d A y | 2. T h U r S D a y |
| 3. W E d n E s d A y | 4. T H u R s D A y |

Ans. 4

57. If the word GROUND is coded as BMJPIY, how the word MINDWELL will be coded?

- | | |
|--------------------|--------------------|
| 1. R N S I B J Q Q | 2. H D I Y R Z G G |
| 3. R N I Y B Z G G | 4. H D I R Y G Z Z |

Ans. 2

58-59 Direction: The capital letters in each of the following words are coded and written in small letters, but not in the same order as the letters in the word. Find the codes for letters and answer the questions.

RATE : u l h b

DATE : a h u l

MALE : g p u l

NAME : c g u l

ROAD : b u a f

TALE : h p l u

58. What will be code in correct order for the word TODA?

1. b f a l
3. h f u a

2. g u f b
4. h u f l

Ans. 3

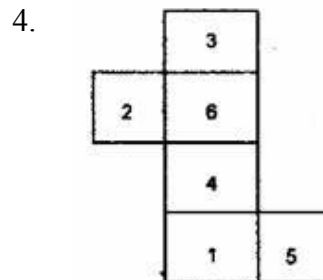
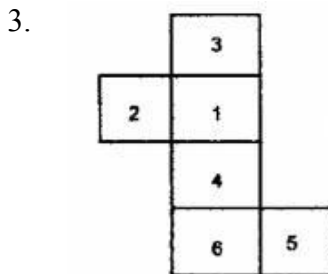
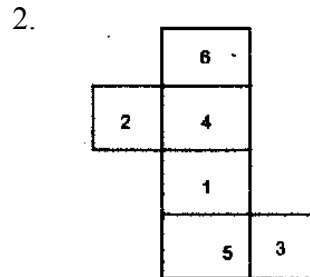
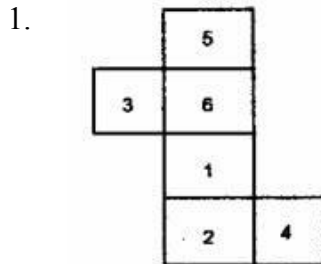
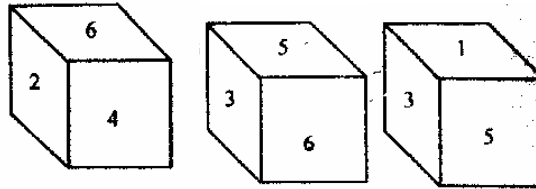
59. How will NORMAL be coded in correct order?

1. c f b h u e
3. c u b g f l

2. c f b g u p
4. c l u b p g

Ans. 2

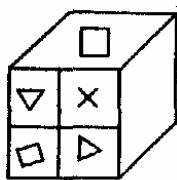
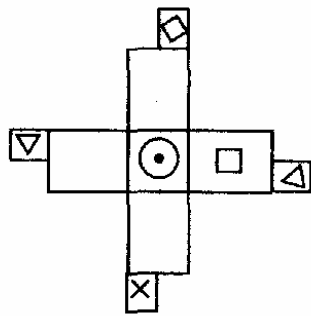
60. The six faces of a cube have been marked with numbers 1, 2, 3, 4, 5 and 6 respectively. This cube is rolled down three times. The three positions are given. Choose the figure that will be formed when the cube is unfolded.



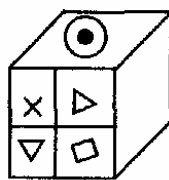
Ans. 2

61-63 Directions: The figure given in each problem is folded to form a box. Choose the box that is similar to the box formed from the given alternatives.

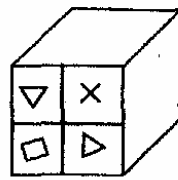
61.



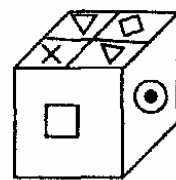
1



2



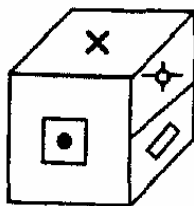
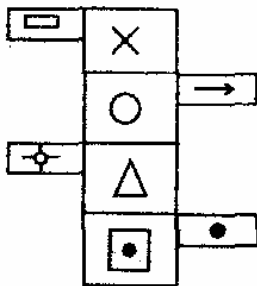
3



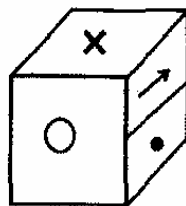
4

Ans. 3

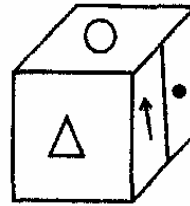
62.



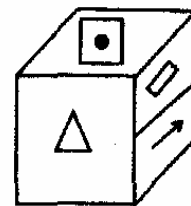
1



2



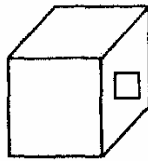
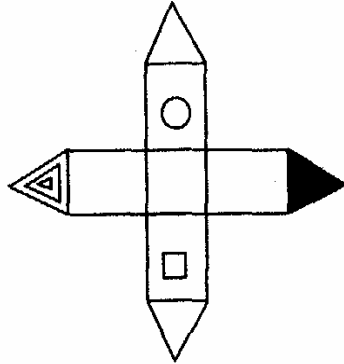
3



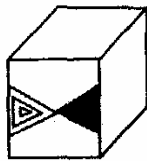
4

Ans. 1

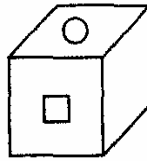
63.



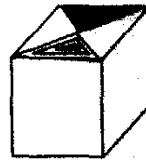
1



2



3



4

Ans. 4

64-66 Directions: Next three questions are based upon the information given below. Study the information carefully and then choose the correct alternative to answer the questions.

Five friends A, B, C, D and E are sitting on a bench.

1. A is sitting next to B.
2. C is sitting next to D.
3. D is not sitting with E
4. E is on the left end of the bench.
5. C is on second position from the right.
6. A is on the right side of B and to the right side of E.
7. A and C are sitting together.

64. Where is A sitting?

- | | |
|--------------------|--------------------|
| 1. Between B and D | 2. Between D and C |
| 3. Between C and E | 4. Between B and C |

Ans. 4

65. C is sitting between

- | | |
|------------|------------|
| 1. B and D | 2. A and E |
| 3. D and E | 4. A and D |

Ans. 4

66. What is the position of D?

- | | |
|--------------------|---------------------|
| 1. Extreme left | 2. Extreme right |
| 3. Third from left | 4. Second from left |

Ans. 2

67-70 Directions: Next four questions are based upon the information given below. Study the information carefully and then choose the correct alternative to answer the questions.

In a family there are six members A, B, C, D, E and F. A and B are a married couple, A being the male member. D is the only son of C who is the brother of A. E is the sister of D. B is the daughter in law of F whose husband has died.

67. How is F related to A?

- | | |
|-----------|------------------|
| 1. Mother | 2. Sister-in-law |
| 3. Sister | 4. Mother-in-law |

Ans. 1

68. How is E related to C?

- | | |
|-----------|-------------|
| 1. Sister | 2. Daughter |
| 3. Cousin | 4. Aunt |

Ans. 2

69. Who is C to B?

- | | |
|------------|-------------------|
| 1. Brother | 2. Son-in-law |
| 3. Nephew | 4. Brother-in-law |

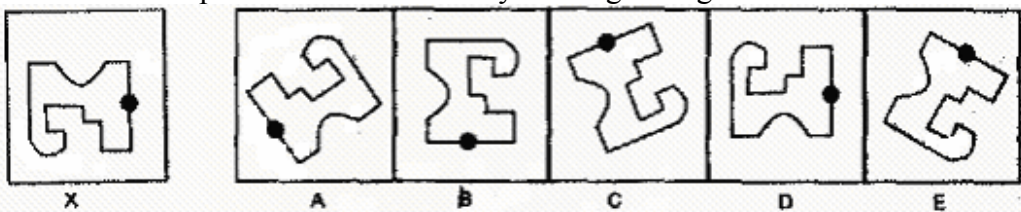
Ans. 4

70. How many male members are there in the family?

- | | |
|---------|----------|
| 1. Two | 2. Three |
| 3. Four | 4. five |

Ans. 2

71. Which of the option can be obtained by rotating the figure X?

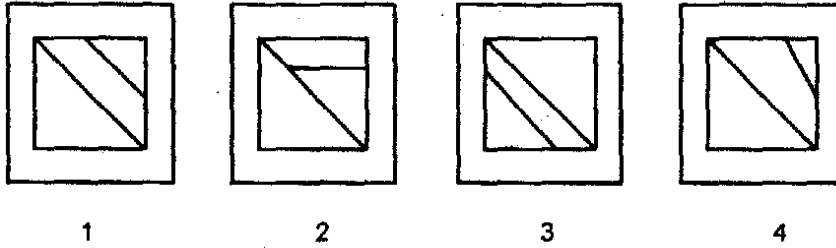
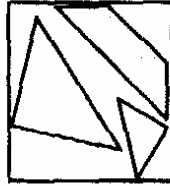


- | | |
|------------|------------|
| 1. B, C, E | 2. A, C, D |
| 3. B, D, E | 4. A, C, E |

Ans. 4

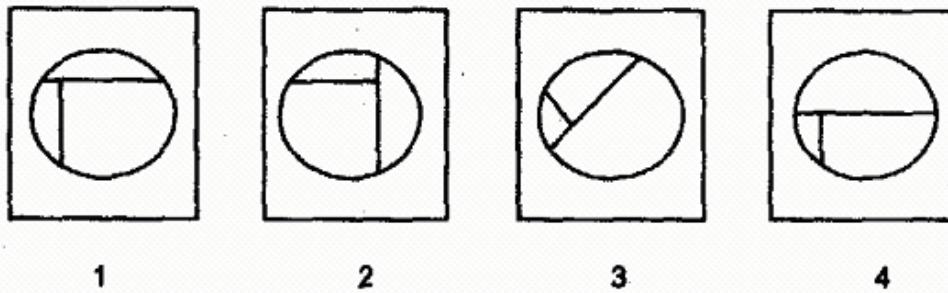
72-73 Directions: In the following questions, the top figure contains the parts of a figure which can be made by joining them together. Select the alternative which shows best how these parts can fit together.

72.



Ans. 4

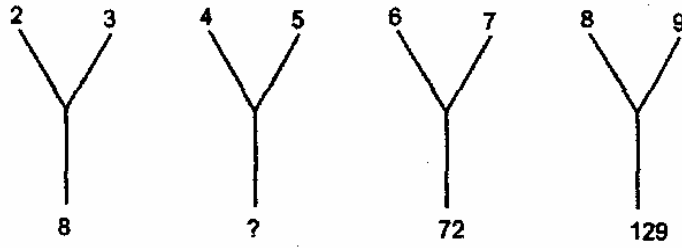
73.



Ans. 3

74-78 Directions: In the following questions, a set of figures carrying some numbers is given. The numbers in each figure follow some specific principle. Study the figures to find out the principle on the basis of which the missing number can be derived. Then, choose the correct alternative which contains this missing number.

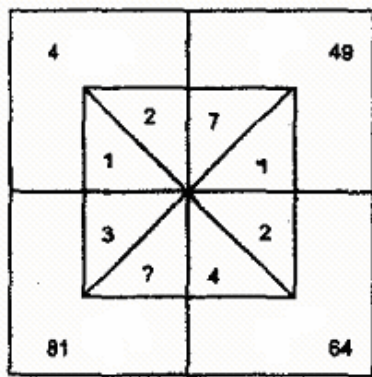
74.



- | | |
|-------|-------|
| 1. 22 | 2. 24 |
| 3. 32 | 4. 42 |

Ans. 3

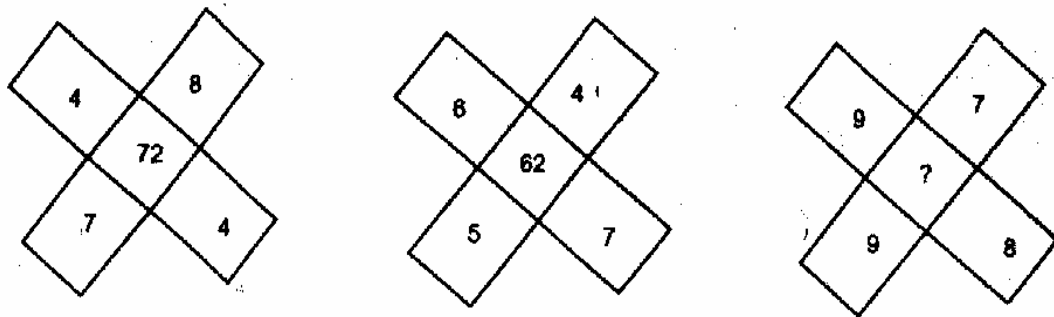
75.



- | | |
|------|------|
| 1. 5 | 2. 4 |
| 3. 3 | 4. 2 |

Ans. 3

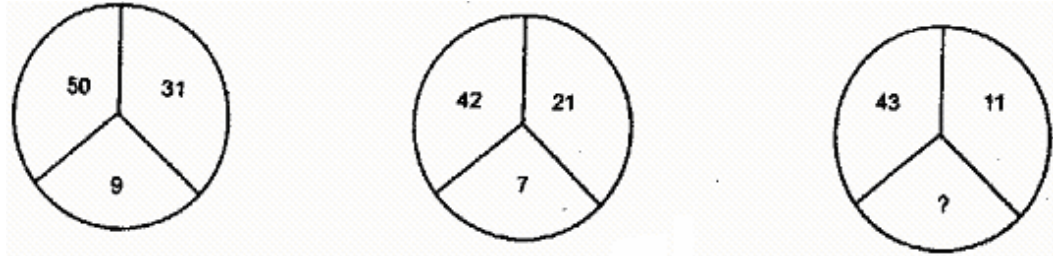
76.



- | | |
|--------|-------|
| 1. 135 | 2. 97 |
| 3. 87 | 4. 82 |

Ans. 1

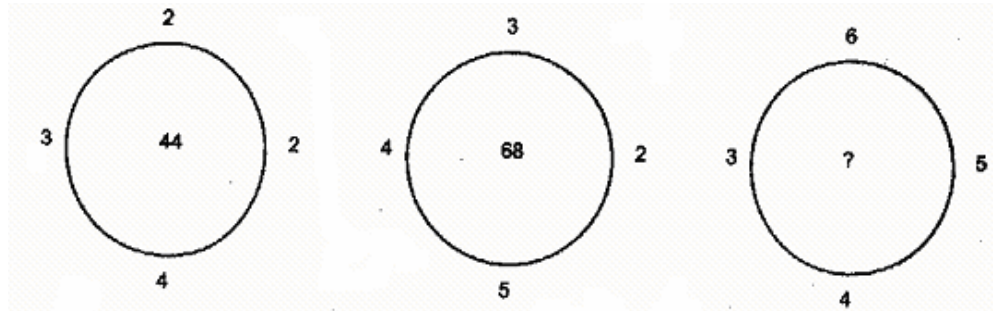
77.



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

Ans. 2

78.



1. 82
2. 98
3. 104
4. 112

Ans. 3

79. If the English letters A to Z are written in a reverse order then what is the fourth letter to the right of 12th letter from the left?

1. K
2. J
3. R
4. L

Ans. 1

80. If the first and the third letters in the letter group DISTRIBUTION are interchanged and also the second and fourth letters, the fifth and seventh and so on then which of the following would be seventh letter from the left?

1. U
2. R
3. B
4. T

Ans. 2

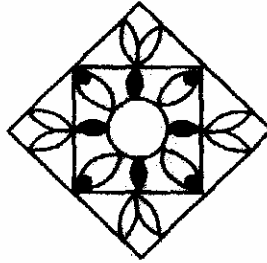
81. If the letters of RUTHLESS are arranged alphabetically then which letter would be the last letter?

1. T
2. E
3. H
4. U

Ans. 4

82-83 Directions: In the following questions, find out which of the figures 1, 2, 3 and 4 given in the alternatives is embedded in the figure given on top.

82.



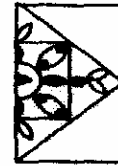
1



2



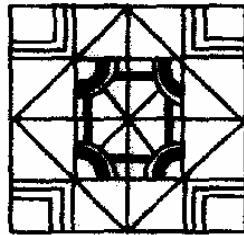
3



4

Ans. 2

83.



1



2



3

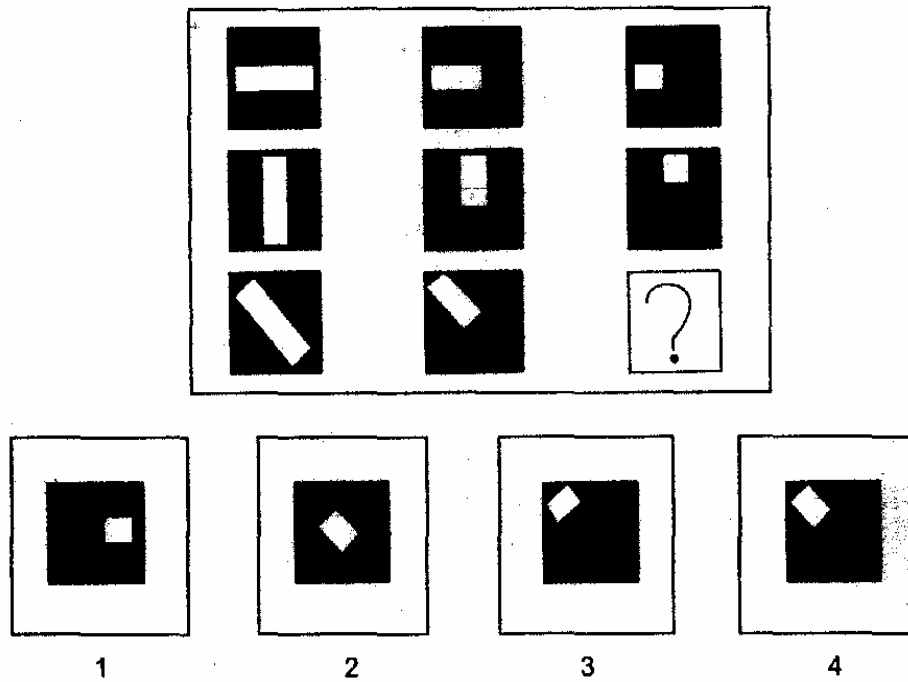


4

Ans. 3

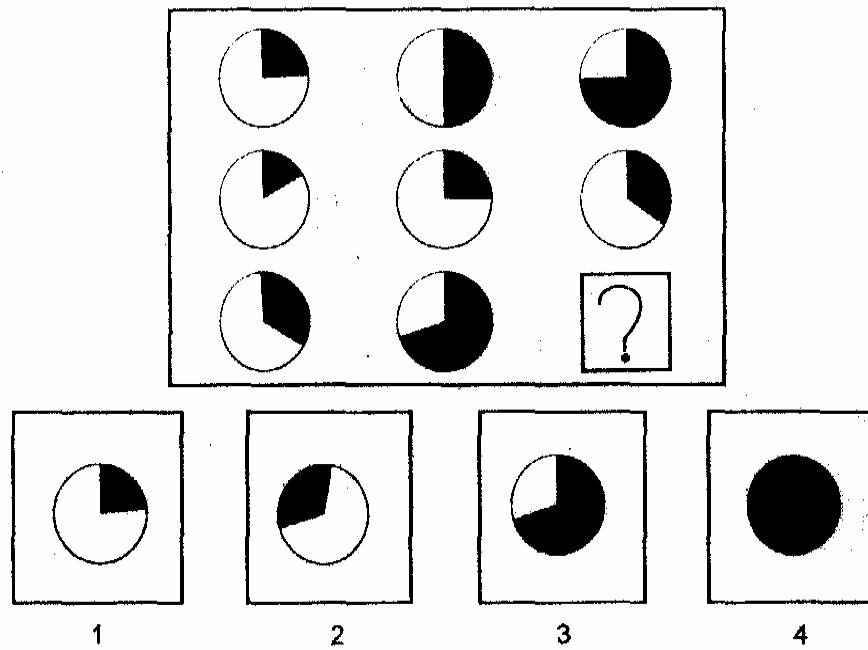
84-86 Directions: In the following questions a set of figures is given. Find out the figure which will complete the blank space from the given alternatives.

84.



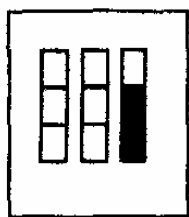
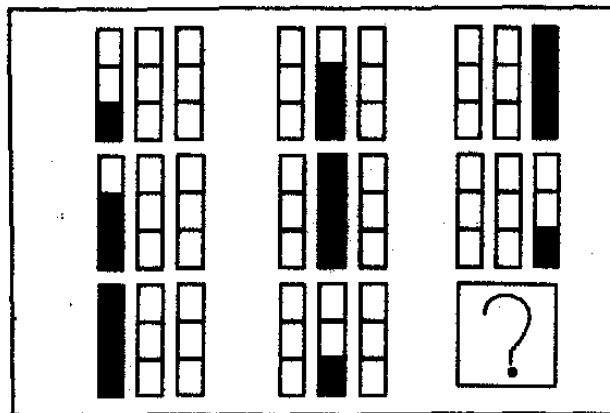
Ans. 4

85.

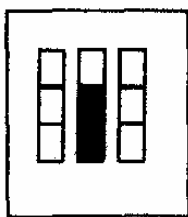


Ans. 4

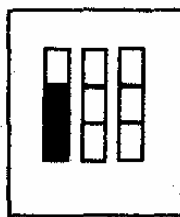
86.



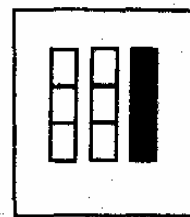
1



2



3

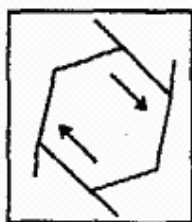
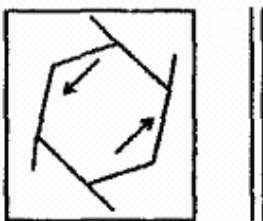


4

Ans. 1

87-88 Direction : There is a figure to the left of the vertical parallel lines. Examine the figures given in the alternatives and find the one which is the exact mirror image of the figure given to the left of the vertical lines.

87.



1



2



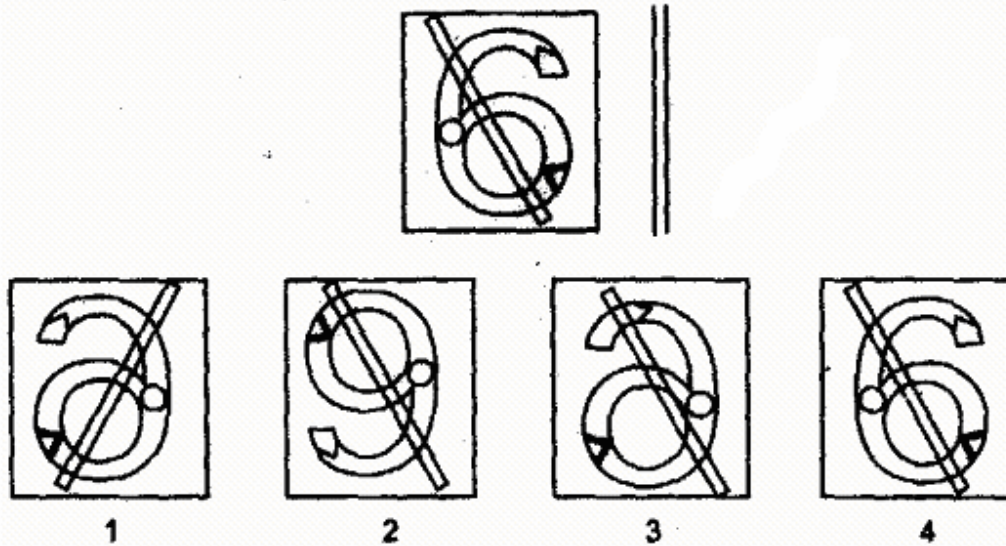
3



4

Ans. 3

88.



Ans. 1

89-90 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 alternatives.

89. What is Mohan's age?

Statements

- I. In 15 years Mohan will be twice as old as Ram would be.
- II. Ram was born 5 years ago.

- 1. Only I is sufficient.
- 2. Only II is sufficient.
- 3. Both I and II are required
- 4. Both I and II are not sufficient

Ans. 3

90. Who is a better singer D or F?

Statements

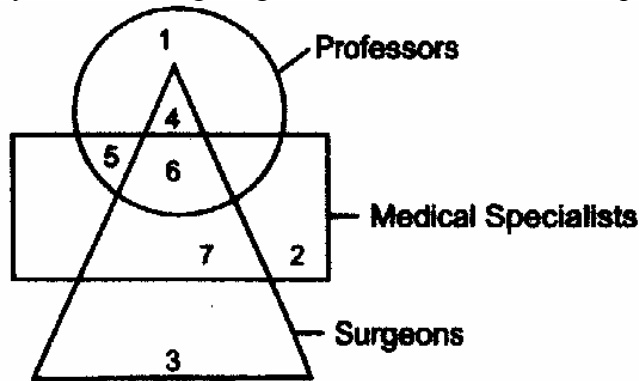
- I. F sings better than both G and S.
- II. Neither S nor F sings so well as D.

- 1. Only I is sufficient.
- 2. Only II is sufficient
- 3. Both I and II are required
- 4. Both I and II are not sufficient

Ans. 2

91-100 Directions: For questions from 91 to 100, write your answers in the given space in the answer sheet. Your answers should be written only in numbers.

91-92 Study the following diagram and then answer each question. Write only the number.



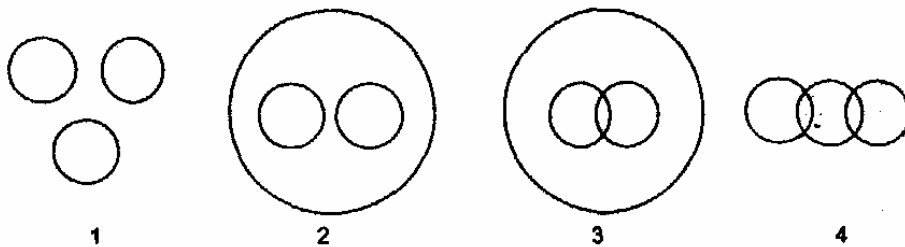
91. Which number indicates Professors who are Medical Specialists?

91. 11

92. Which number indicates Surgeons who are Medical Specialists but not Professors?

92. 7

93-95 Each one of the following questions contains three items. Using the relationship between these items match each question with the most suitable diagram given below. Your answer is the number which denotes that diagram. Write the number of the diagram in your answer sheet.



93. Your, mine, their

Ans. 1

94. Flowers, clothes, white

Ans. 4

95. Mountains, Forest, Earth

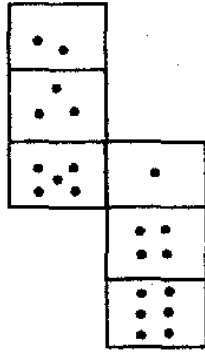
Ans. 2

96. In the following series how many 8s are there which are followed by 8? Write the number in your answer sheet.

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

Ans. 6

97. How many dots lie opposite the face having four dots, when the given figure is folded to form a cube? Write the number of dots in your answer sheet.



Ans. 3

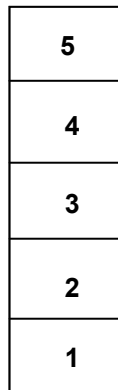
98. If the fifth day of a month is 3 days earlier than Tuesday, what day will it be on the 15th day of the month? Write the number of the day counting Monday as 1, Tuesday as 2 and so on.

Ans. 2

99. X was born on 3rd March, 1980. Y was born 4 days before X. The Republic Day of that year fell on Saturday. Then which day was Y's birthday? Write the number of the day counting Monday as 1, Tuesday as 2 and so on.

Ans. 2

100. Five boxes numbered as 1, 2, 3, 4 and 5 are stacked one on top of the other starting with number 1 at the bottom as shown.



Box 1 is removed and placed on top of the stack. If the procedure is repeated two more times, which box will be in the middle of the stack? Write only the number of the box

Ans. 1
